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Ministry of Labor and Skills

Manufacturing Sanitation Product and Latrine Construction

Advanced Short-term training Curriculum



TVT Curriculum Version-I
Based on May 2023, Version- I
Occupational Standard

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Mulualem Misganaw, Senior Expert /TVT Sector, MOLS

Mesfin Habtemariam (MA), Engineering Technical Manager, PSI/TWASH

Bacha Kitesa (MpH, MA), WASH Capacity Development Manager, PSI/TWASH

Fisum G/Egizebiher (MpH), WASH Business Development Manager, PSI/TWASH

Dagim Demirew (MpH), Associate Director, WASH Business development, PSI/TWASH

Ziyad Ahmed (MpH), Senior Expert, MOH

Wondayehu Wube (MpH), Senior Expert, MOH

Andualem Abebayhu (MSC), Instructor, Debark PTC

Mesfin Wondimu (BSc), Instructor, Aleta Wondo PTC

Girema Moges (BSc), Instructor, Wolayita PTC

Dagim Fekadu (MSc), Instructor, Ambo PTC

Solomon Tadese (BSc), Instructor, GWPTC

Esmael Mohammed (BSc), Instructor, Kombolcha PTC

Desalegn Alemu (Bsc), Instructor, Woliso PTC

Tesfaye Assegidew (MSc), Instructor, Butajira PTC

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PREFACE

The reformed TVT-System is an outcome-based system. It utilizes the needs of the labor market and occupational requirements from the world of work as the benchmark and standard for TVT delivery. The requirement from the world of work is analyzed and documented considering international benchmarking – as occupational standards (OS).

In the reformed TVT-System, curricula, and curriculum development play an important role with regard to quality driven comparable TVT-Delivery. The Curricula help to facilitate the training process in a way, that trainees acquire the set of occupational competences (skills, knowledge, and attitude) required at the working place and defined in the occupational standards (OS).

This curriculum is developed by a group of professional experts from different Regional TVT Bureaus, colleges, Industries, Institutes, and universities based on the occupational standard for **Manufacturing Sanitation product and Construction**. The curriculum development process has been actively supported and facilitated by **MoLS, MoH, MoWE, USAID, PSI, and One WASH national Program**.

1. TVT-Program Design

1.1. TVT-Program Title: Manufacturing Sanitation product and Construction-Short Term training

1.2. TVT-Program Description

The Program is designed to develop the necessary knowledge, skills and attitude of the trainees to the standard required by the occupation. The contents of this program are in line with the occupational standard. The Trainees who successfully completed the Program will be qualified to work as an **Manufacturing Sanitation product and Construction** with competencies elaborated in the respective OS. Graduates of the program will have the required qualification to work in the **Construction sector** in the field of **Manufacturing Sanitation product and Construction**.

The prime objective of this training program is to equip the Trainees with the identified competences specified in the OS. Graduates are therefore expected to Apply Basic Water, Sanitation and Hygiene Practice, Read and interpret building drawing and specifications, Set out and Excavation, Carryout Reinforced Concrete work, Produce Block, Lay Masonry Unit and Finishing Work, Install of sewerage line, water supply line and sanitary appliance, Prepare bill of quantity, Develop Morality, Ethics and Patriotism and develop entrepreneurship in accordance with the performance criteria and evidence guide described in OS.

1.3. Training Program Structure

Unit of competence		Sequences of Learning modules		Unit title	Nominal Duration (In Hours)
		Code	Title / Module name		
EIS WSSW1 02 0417	Apply Basic Water, Sanitation and Hygiene Practice	EIS WSSW1 M01 0523	Basic Water, Sanitation and Hygiene Practice	<ul style="list-style-type: none"> Sanitation Protocol, Hygiene Procedures and Hazards Proper Utilization of Improved Latrine Proper Handling of Drinking Water at Household Level Proper Hand Washing and Personal Hygiene Practices 	4
EIS BBCW1 04 0322	Read and interpret building drawing and specifications	EIS BBCW1 M02 0523	Read and interpret working drawing and specifications	<ul style="list-style-type: none"> Free Hand Sketching and Views Architectural Symbols and Abbreviations Types of drawings and their purposes 	4

EIS SCW1 07 0322	Setting out profile setup for building work	EIS SCW1 M03 0523	Setting out and Excavation	<ul style="list-style-type: none"> Plan and Prepare work. Set out and Excavations 	8
EIS SCW1 09 0322	Prepare and Mix Mortar, Cast, and Level Concrete Work	EIS SCW1 M04 0523	Carryout Reinforced Concrete work	<ul style="list-style-type: none"> Safety in Construction Construction Tools, Equipment and Materials Erecting and dismantling formwork and scaffolding Rebar and Bamboo reinforcement Carryout reinforced concrete work 	32
EIS SCW1 08 0322	Lay Masonry Unit	EIS SCW1 M05 0523	Block Production, Lay Masonry Unit and Finishing Work	<ul style="list-style-type: none"> Hollow concrete block production Cement stabilized earth block production Lay masonry unit Finishing work Roof Structures and Sheet Coverings 	32
EIS PLI1 07 0222	Install and maintain water supply	EIS PLI M06 0523	Installation of sewerage line, water supply line and sanitary appliance	<ul style="list-style-type: none"> Sanitary material, tools, and equipment's Installation of sewerage system Installation water supply system 	16
EIS SCW3 02 0322	Prepare Bill of Quantities	EIS SCW3 M07 0523	Bill of Quantity	<ul style="list-style-type: none"> Substructure Work Super structure Work 	16
MIN CRP2 10 1222	Develop Morality, Professional Ethics and Patriotism	MIN CRP2 M08 0323	Morality, Ethics and Patriotism	<ul style="list-style-type: none"> Basic concept of morality Professional ethics Development of patriotic personality 	4
ENT EMP 08 0821	Developing Entrepreneurship and Employability skills	ENT EMP M09 0523	Develop business practice	<ul style="list-style-type: none"> Entrepreneurship Identify business opportunity. Develop business skill 	4

1.4. Duration of the TVT-Program

The Program will have duration of **120 hours** including the in-school/ Institution training and on-the-job practice or cooperative training time. Such cooperative training based on realities of the industry, nature of the occupation, location of the TVT institution, and other factors will be considered in the training delivery to ensure that trainees acquire practical and workplace experience.

S.No	Module title	TVT Institution training		Cooperative training	Total hours	Remark
		Theory	Practical			
1	Basic Water, Sanitation and Hygiene Practice	3	1	-	4	
2	Read and interpret working drawing and specifications	2	2	-	4	
3	Setting out and Excavation	2	5	1	8	
4	Carryout Reinforced Concrete work	4	26	2	32	
5	Block Production, Lay Masonry Unit and Finishing Work	4	26	2	32	
6	Installation of sewerage line, water supply line and sanitary appliance	4	11	1	16	
7	Prepare Bill of Quantity	8	7	1	16	
8	Morality, Ethics and Patriotism	4	-	-	4	
9	Develop business practice	4	-	-	4	
Total hour		35	78	7	120	
Project work title					Maximum one week	

N.B. The cooperative training time can be managed for implementations according to the context of the training environments of the institution.

1.5. Qualification Level and Certification

Qualification is a formal certificate issued by an official agency in recognition to that an individual has been assessed as achieving learning outcomes or competencies to the standard specified for the qualification title. A qualification confers official recognition of value in the labour market and in further education and training. Based on the descriptors elaborated on the Ethiopian National TVT Qualification Framework (NTQF) the qualification of this specific TVT Program is Manufacturing Sanitation product and Construction Short term **Certificate** according to the Short term. The trainee will be awarded transcript and the institutional certificate after successfully completing all the modules in the level.

1.6. Target Groups

Any citizen who meets the entry requirements under items 1.7 and capable of participating in the training activities is entitled to take part in the Program.

1.7. Entry Requirements

In principle everyone should be able to access training based on the labor market. Hence the prospective participants of this program are any citizen who possesses the entry requirement directive of the Ministry of Labor and Skills.

1.8. Mode of Delivery

This TVT-Program is characterized as a formal Program on middle level technical skills. The mode of training delivery is in the institution and co-operative training. Cooperative training is a model of training by the cooperation of enterprises/industries and TVT institutions whereby trainees spend much of their time in the enterprises/industries to acquire industrial knowledge, skills, experiences, and attitudes of the industrial environment and the remaining time in TVT institutions to acquire basic skills and theoretical concepts. Therefore, it is necessary to make the TVT sector more effective by strengthening a system of cooperative training accepted by the industry.

The program will employ different alternatives of cooperative training such as apprenticeships, internship and traineeship based on the nature of the occupation, location of the TVT institutions, and interest of the industry. In addition, in the areas where industry is not sufficiently available the established production and service centers/learning factories in TVT institutions will be used as cooperative training places. The Training-Institution and identified companies should have to take an agreement to co-operate about the implementation of this program.

1.9. Institutional Assessment

Two types of evaluation will be used in determining the extent to which training outcomes are achieved. The specific training outcomes are stated in the modules. In assessing them, verifiable and observable indicators and standards shall be used.

The formative assessment is incorporated in the training modules and form part of the training process. Formative evaluation provides the trainee with feedback regarding success or failure in attaining training outcomes. It identifies the specific training errors that need to be corrected, and provides reinforcement for successful performance as well. For the teacher, formative evaluation provides information for making instruction and remedial work more effective.

Summative Evaluation the other form of evaluation is given when all the modules in the program have been accomplished. It determines the extent to which competence have been achieved. And, the result of this assessment decision shall be expressed in the term of institutional Assessment implementation guidelines.

Techniques or tools for obtaining information about trainees' achievement include oral or written test, demonstration and on-site observation. Therefore, a trainee is required to earn at least 60% to be theoretically qualified. This result should be 18% or more when converted to 30%. Regarding performance appraisal results, it must score at least 80% or at least 32% or more when converted to 40%. Must cooperate at least 80% out of 100% in cooperative training; When converted to 30%, it must register 24%.

1.10. TVT Teachers Profile

The trainers conducting this particular TVT Program are **B Level** and above who have satisfactory practical experiences or equivalent qualifications.

1.11. Training and Assessment methodology

The program is delivered using a variety of training methods. The table below shows training and assessment methodology for non-impaired trainees and with reasonable adjustment for impaired trainees. In addition, as per the nature of the module title the trainer can use recommended and possible training and assessment methodology.

Learning Methods:				
For nonimpaired trainees	Reasonable Adjustment for Trainees with Disability (TWD)			
	Low Vision Blind	Deaf	Hard of hearing	Physical impairment
Lecture-discussion	<ul style="list-style-type: none"> Provide large print text. Prepare the lecture in Audio/video. Organize the classroom seating arrangement to be accessible to trainees. Write short notes on the black/white board using large text. Make sure the luminosity of the light of classroom is kept. Use normal tone of voice. Encourage trainees to record the lecture in audio format. Provide Orientation on the physical feature of the workshop. Summarize main points 	<ul style="list-style-type: none"> Assign sign language interpreter. Arrange the classroom seating to be conducive for eye-to-eye contact. Make sure the luminosity of the light of classroom is kept. Introduce new and relevant vocabularies. Use short and clear sentences. Give emphasis on visual lecture and ensure the attention of the trainees. Avoid movement during lecture time. Present the lecture in video format. Summarize main points 	<ul style="list-style-type: none"> Organize the classroom seating arrangement to be accessible to trainees. Speak loudly. Ensure the attention of the trainees. Present the lecture in video format. Ensure the attention of the trainees. 	<ul style="list-style-type: none"> Organize the classroom seating arrangement to be accessible for wheelchairs users. Facilitate and support the trainees who have severe impairments on their upper limbs to take note. Provide Orientation on the physical feature of the workshop.
Demonstration	<ul style="list-style-type: none"> Conduct close follow up. Use verbal description. Provide special attention in the process of guidance. facilitate the support of peer trainees. Prepare & use simulation 	<ul style="list-style-type: none"> use Sign language interpreter. Use video recorded material. Ensure attention of the trainees Provide structured training. Show clear and short method. Use gesture. provide tutorial support. (if necessary) 	<ul style="list-style-type: none"> Illustrate in clear & short method. Use Video recorded material. Ensure the attention of the trainees. provide tutorial support. (if necessary) 	<ul style="list-style-type: none"> Facilitate and support the trainees having severe upper limbs impairment to operate equipment's/ machines. Assign peer trainees to assist. Conduct close follow up. provide tutorial support. (if necessary)

<p>Group discussion</p>	<ul style="list-style-type: none"> Facilitate the integration of trainees with group members. Conduct close follow up. Introduce the trainees with another group member. Brief the thematic issues of the work 	<ul style="list-style-type: none"> Use sign language interpreters. Facilitate the integration of trainees with group members. Conduct close follow up. Introduce the trainees with another group member. 	<ul style="list-style-type: none"> Facilitate the integration of trainees with group members. Conduct close follow up Introduce the trainees with another group member. Inform the group members to speak loudly 	<ul style="list-style-type: none"> Introduce the trainees with their peers
<p>Exercise</p>	<ul style="list-style-type: none"> Conduct close follow up and guidance. Provide tutorial support if necessary. provide special attention in the process. 	<ul style="list-style-type: none"> Conduct close follow up and guidance. Provide tutorial support if necessary. provide special attention in the process/practical training. Introduce new and relevant vocabularies 	<ul style="list-style-type: none"> Conduct close follow up and guidance. Provide tutorial support if necessary. provide special attention in the process/ practical training 	<ul style="list-style-type: none"> Assign peer trainees. Use additional nominal hours if necessary
<p>Individual assignment</p>	<ul style="list-style-type: none"> prepare the assignment questions in large text. Encourage the trainees to prepare and submit the assignment in large texts. Make available recorded assignment questions Facilitate the trainees to prepare and submit the assignment in soft or hard copy 	<ul style="list-style-type: none"> Use sign language interpreter. Provide briefing /orientation on the assignment. Provide visual recorded material. 	<ul style="list-style-type: none"> Provide briefing / orientation on the assignment. Provide visual recorded material. 	

Assessment Methods:				
Interview	<ul style="list-style-type: none"> Use sign language interpreter. Ensure or conform whether the proper communication was conducted with the trainee through the service of the sign language interpreter. Use short and clear questioning. Time extension 	<ul style="list-style-type: none"> Speak loudly. Using sign language interpreter if necessary 	<ul style="list-style-type: none"> Use written response as an option for the trainees having speech challenges 	
Written test	<ul style="list-style-type: none"> Prepare the exam in large texts. Use interview as an option if necessary. Prepare the exam in audio format. Assign human reader. (If necessary) Time extension 	<ul style="list-style-type: none"> Prepare the exam using short sentences, multiple choices, True or False, matching, and short answers. Avoid essay writing. Time extension 	<ul style="list-style-type: none"> Use oral response as an option to give answer for trainees having severe upper limb impairment. Time extension for trainees having severe upper limb impairment 	
Demonstration/ Observation	<ul style="list-style-type: none"> Brief the instruction or provide them in large text Time extension 	<ul style="list-style-type: none"> Use sign language interpreter. Brief on the instruction of the exam Provide activity-based/practical assessment method. Time extension 	<ul style="list-style-type: none"> Provide activity-based assessment. Brief on the instruction of the exam Use loud voice. Time extension 	<ul style="list-style-type: none"> Provide activity-based assessment. Conduct close follow up. Time extension

2. Learning Module Design

Module Code and Title	EIS WSSW1 M01 0523: Basic Water, Sanitation and Hygiene Practice
Nominal Duration :	4 Hrs.

Module Description : This module covers knowledge, skills and attitude required to apply basic sanitation and hygiene practice to prevent spreading diseases in according to specified standards and parameters.

Training Outcomes

At the end of the module the trainee will be able to attain the following training objectives:

- Follow sanitation protocol, hygiene procedures and identify hazards.
- Demonstrate proper utilization of improved latrine.
- Apply proper handling of drinking Water at household level.
- Apply Proper hand washing and personal hygiene practices

Module Contents:

Unit One: Sanitation Protocol, Hygiene Procedures and Hazards

- 1.1. Water, Sanitation and Hygiene Policies
- 1.2. Water, Sanitation and Hygiene Hazards
- 1.3. Market Based Sanitation
 - 1.3.1. Concept of Market Based Sanitation
 - 1.3.2. Sanitation Ladder
 - 1.3.3. Technology Options

Unit Two: Proper Utilization of Improved Latrine

- 2.1. Key Components and Importance of an Improved Latrine
- 2.2. Proper Use and Maintenance Techniques

Unit Three: Proper Handling of Drinking Water at Household Level

- 3.1. Drinking Water Quality Standards
- 3.2. Drinking Water Quality Hazards
- 3.3. Water treatment and proper storage at household level

Unit Four: Proper Hand Washing and Basic Personal Hygiene Practices

- 4.1. Importance of Basic Personal Hygiene
- 4.2. Steps for Proper Hand Washing Technique
- 4.3. Products for Proper Basic Hygiene and Sanitation Practice

Learning Methods:

- Lecture
- Demonstration
- Group discussion
- Assignment

Assessment Methods:

- Written test
- Oral questioning
- Observation
- Demonstration

Assessment Criteria:

Unit One: Sanitation Protocol, Hygiene Procedures and Hazards

- Apply water, sanitation and hygiene policies.
- Identify water, sanitation, and hygiene hazards.
- Describe market-based sanitation.
 - Explain concept of market-based sanitation.
 - Describe sanitation ladder.
 - Apply technology options.

Unit Two: Proper Utilization of Improved Latrine

- Key Components and Importance of an Improved Latrine
- Demonstrate Proper Use and Maintenance Techniques

Unit Three: Proper hand washing and basic personal hygiene practices

- Identify importance of basic personal hygiene
- Demonstrate proper hand washing technique
- Demonstrate Water treatment and proper storage at house hold level

Module Code and Title	EIS BBCW1 M02 0523: Read and interpret building drawing and specifications.
Nominal Duration :	4 Hrs.
Module Description : This module specifies the outcomes required to read and interpret plans and specifications in order to perform the work as per the drawings.	
Training Outcomes At the end of the module the trainee will be able to attain the following training objectives: <ul style="list-style-type: none">• Understand Free hand sketching and views• Identify architectural symbols and abbreviations.• Explain types of drawings and their purposes.	
Module Contents: Unit One: Introduction to Free Hand Sketching and Views <ul style="list-style-type: none">1.1. Free hand sketching1.2. Orthographic view /2D1.3. Isometric perspective/3D Unit Two: Architectural Symbols and Abbreviations <ul style="list-style-type: none">2.1. Drawing symbols and abbreviations2.2. Sanitary symbols2.3. Electrical symbols Unit Three: Types of Working Drawings and Their Purposes <ul style="list-style-type: none">3.1. Architectural drawing3.2. Structural drawing3.3. Sanitary drawing3.4. Electrical drawing3.5. Detail drawing	

Learning Methods:

- Lecture
- Demonstration
- Group discussion
- Assignment
- Focus group

Assessment Methods:

- Written test
- Oral questioning
- Presentation
- Observation
- Demonstration

Assessment Criteria:

Unit One: Introduction to free hand sketching and views

- Identify free hand sketching.
- Explain orthographic view /2D.
- Explain isometric perspective/3D.

Unit Two: Architectural symbols and abbreviations

- Identify Drawing symbols and abbreviations.
- Identify Sanitary symbols.
- Identify Electrical symbols.

Unit Three: Types of drawings and their purposes

- Explain architectural drawing.
- Explain structural drawing.
- Explain sanitary drawing.
- Explain electrical drawing.
- Read and explain detail drawing.

Module Code and Title	EIS SCW1 03 0523: Setting out and Excavation
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Nominal Duration :	8 Hrs.
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Module Description : This module covers knowledge, skills and attitude required to carry-out setting out and excavation for different kinds of latrine according to specified standards and parameters relevant to construction quality.

Training Outcomes

At the end of the module the trainee will be able to attain the following training objectives:

- Plan and prepare work.
- Perform setting out and Excavations

Module Contents:

Unit One: Plan and Prepare work.

- 1.1. Work requirements
- 1.2. Signage and barricade
- 1.3. Tools and equipment
- 1.4. Underground services

Unit Two: Set out and Excavations.

- 2.1. Set out different excavation.
- 2.2. Types of soil and excavation
- 2.3. Excavation collapse prevention methods
- 2.4. Barricade in excavation
- 2.5. Executing excavation work
- 2.6. Back fill and compaction

Learning Methods:

- Lecture
- Demonstration
- Group discussion
- Assignment

Assessment Methods:

- Written test
- Oral questioning
- Observation
- Demonstration

Assessment Criteria:

Unit One: Plan and Prepare work.

- 1.1. Identify work requirements.
- 1.2. Identify signage and barricade.
- 1.3. Explain tools and equipment.
- 1.4. Identify underground services

Unit Two: Set out and Excavations.

- 2.1. Set out different excavation.
- 2.2. Explain types of soil and excavation
- 2.3. Explain excavation collapse prevention methods.
- 2.4. Identify barricade in excavation.
- 2.5. Execute excavation work.
- 2.6. Perform back fill and compaction

Module Code and Title	EIS SCW1 M04 0523: Carryout Reinforced Concrete work
Nominal Duration :	32 Hrs.

Module Description : The module aims to provide the learners with the required knowledge, skill and attitude to identify Health and Safety, select tools, equipment and materials, Erect and dismantle formwork and scaffolding, install reinforcement and bamboo, carryout reinforcement concrete work. Furthermore, it contains the different materials for the preparation of the reinforced concrete work.

Training Outcomes

At the end of the module the trainee will be able to attain the following training objectives:

- Identify safety in Construction.
- Select Construction Tools, Equipment and Materials
- Erect and dismantle formwork and scaffolding.
- Prepare Rebar and bamboo reinforcement.
- Carryout reinforcement concrete work

Module Contents:

Unit One: Safety in Construction

- 1.1. Construction Health and Safety legislative requirements
- 1.2. Construction hazards and control measures
- 1.3. Construction Health and Safety incident.

Unit Two: Construction Tools, Equipment and Materials

- 2.1. Uses of construction tools and equipment.
- 2.2. Basic construction raw materials

Unit Three: Erecting and dismantling formwork and scaffolding

- 3.1. Concept of formwork and scaffolding
- 3.2. Erecting formwork and scaffolding
- 3.3. Dismantling formwork and scaffolding

Unit Four: Rebar and Bamboo reinforcement

- 4.1. Cutting, bending, and fixing reinforcement
- 4.2. Cutting and fixing bamboo
- 4.3. Installing different plastic technology
 - 4.3.1. SATO Products
 - 4.3.2. AIM

Unit Five: Carryout reinforced concrete work

- 5.1. Mix ratio and batching.
- 5.2. Mix concrete ingredients
- 5.3. Transportation and placing
- 5.4. Compaction and Curing
- 5.5. Concrete material and rebar estimation
- 5.6. Labor and cost calculation

Learning Methods:

- Lecture
- Demonstration
- Group discussion
- Assignment

Assessment Methods:

- Written test
- Oral questioning
- Observation
- Demonstration

Assessment Criteria:

Unit One: Safely in Construction

- Identify construction health and safety legislative requirements.
- Identify construction hazards and control measures.
- Describe construction health and safety incident.

Unit Two: Construction Tools, Equipment and Materials

- Explain use of construction tools and equipment.
- List basic construction raw materials

Unit Three: Erect and dismantle formwork and scaffolding.

- Explain concept of formwork and scaffolding
- Erect formwork and scaffolding
- Dismantle scaffolding

Unit Four: Reinforcement and bamboo

- Carryout cut, bend and fix reinforcement.
- Carryout cut and fix bamboo.
- Install different plastic technology.

Unit Five: Carryout reinforcement concrete work

- Identify mix ratio and batching.
- Perform mix concrete ingredients.
- Describe transportation and placing.
- Explain compaction and curing.
- Determine concrete material and rebar estimation.
- Determine labor and cost calculation

Module Code and Title	EIS SCW1 M05 0523: Block Production, Lay Masonry Unit and Finishing Work
Nominal Duration :	32 Hrs.

Module Description : This module covers the competence specifies the outcomes required to undertake block production, lay masonry unit and finishing work induction training within the construction short term training.

Training Outcomes

At the end of the module the trainee will be able to attain the following training objectives:

- Perform hollow concrete block production
- Perform Cement stabilized earth block production
- Lay masonry unit
- Carry out finishing work
- Construct Roof Structures and Sheet Coverings

Module Contents:

Unit One: Hollow Concrete Block Production

- 1.1. Hollow concrete block Ingredients
- 1.2. Measure and mix ingredients
- 1.3. Carrying out Hollow concrete block production
- 1.4. Curing and storing of Hollow concrete block

Unit Two: Cement stabilized Earth block production

- 2.1. Types of soil used for stabilized blocks
- 2.2. Process of stabilized earth block production
- 2.3. Quality of Cement stabilized earth block

Unit Three: Lay masonry unit

- 3.1. Materials selection
- 3.2. Mortar preparation
- 3.3. Masonry wall construction
- 3.4. Checking quality of work

Unit Four: Finishing work.

- 4.1. Plastering, Pointing, Rendering and painting application
- 4.2. Floor finishing

Unit Five: Roof structures and sheet coverings

- 5.1. Setting out of roof members
- 5.2. Roof support installation
- 5.3. Roof covering installation

Learning Methods:

- Lecture
- Demonstration
- Group discussion
- Assignment

Assessment Methods:

- Written test
- Oral questioning
- Observation
- Demonstration

Assessment Criteria:

Unit One: Hollow Concrete Block Production

- Identify hollow concrete block ingredients.
- Perform measure and mix ingredients.
- Carry out hollow concrete block production
- Perform cure and storage of hollow concrete block.

Unit Two: Cement stabilized Earth block production

- Describe types and properties of soil.
- Explain process of cement stabilized earth block production
- Check quality of cement stabilized earth block

Unit Three: Lay masonry unit

- Select raw materials
- Prepare mortar.
- Construct masonry wall
- Check quality of work

Unit Four: Finishing work.

- Demonstrate Plastering, Pointing, Rendering and painting application.
- Floor finishing

Unit Five: Roof structures and sheet coverings

- Setout roof members
- Install roof support.
- Install roof covering

Module Code and Title	EIS PLI M06 0523: Installation of sewerage line, water supply line and sanitary appliance
Nominal Duration :	16 Hrs.

Module Description: This module covers the skill, knowledge and attitude required to Installation of drainage system, water supply line and sanitary appliance.

Training Outcomes

At the end of the module the trainee will be able to attain the following training objectives:

- Describe sanitary material, tools, and equipment's.
- Install sewerage system.
- Install water supply system

Module Contents:

Unit One: Sanitary Material, Tools and Equipment's

- 1.1. Types of pipe, fittings and valves
- 1.2. Sanitary tools and equipment

Unit Two: Architectural Symbols and Abbreviations

- 2.1. Parts of Sewerage Line
- 2.1. Ventilation and traps
- 2.2. Layout of Sewerage Point
- 2.3. Connection Techniques

Unit Three: Installation of Water Supply Line

- 3.1. Water Piping System
- 3.2. Layout of Water Supply
- 3.3. Connection Techniques
- 3.4. Types of Sanitary Appliances

Learning Methods:

- Lecture
- Demonstration
- Group discussion
- Assignment

Assessment Methods:

- Written test
- Oral questioning
- Observation
- Demonstration

Assessment Criteria:

Module Contents:

Unit One: Sanitary Material, Tools, and Equipment's

- Describe Types of pipes, fittings, and valves
- Identify Sanitary tools and equipment.

Unit Two: Installation of Sewerage Line

- Explain Parts of Sewerage Line
- Explain Ventilation and traps.
- Layout Sewerage Point
- Apply Connection Techniques

Unit Three: Installation of Water Supply Line

- Identify Water Piping System
- Layout Water Supply
- Apply Connection Techniques
- List Types of Sanitary Appliances

Module Code and Title	EIS SCW3 M07 0523: Prepare Bill of Quantity
Nominal Duration :	16 Hrs.

Module Description: This unit specifies the competency to prepare bill of quantities for hollow concrete block, earth block, plastering work, painting work, ceramic work, sanitary work and roof work based on the information obtained from technical drawings and specifications.

Training Outcomes

At the end of the module the trainee will be able to attain the following training objectives:

- Estimate substructure work.
- Estimate superstructure work.

Module Contents:

Unit One: Substructure work

- 1.1. Excavation Work
- 1.2. Stone Masonry
- 1.3. Concrete Ring
- 1.4. Concrete Ring Cover
- 1.5. Rectangular Slab

Unit Two: Superstructure work

- 2.1. Hollow Concrete Block
- 2.2. Plastering work
- 2.3. Painting work
- 2.4. Pointing work
- 2.5. Cement Screed
- 2.6. Roof work

Learning Methods:

- Lecture
- Demonstration
- Assignment

Assessment Methods:

- Written test
- Demonstration
- Work out

Assessment Criteria:

Unit One: Substructure work

- Determine Excavation Work
- Determine Stone Masonry
- Determine Concrete Ring
- Determine Concrete Ring Cover
- Determine Rectangular Slab

Unit Two: Superstructure work

- Determine Hollow Concrete Block
- Determine Plastering work
- Determine Painting work
- Determine Pointing work
- Determine Cement Screed
- Determine Roof work

Module Code and Title:	MIN CRP2 M10 0523: Morality, Ethics and Patriotism
Nominal Duration :	4 Hrs.

Module Description : This modules covers the knowledge, skills and attitude required to develop the concept and principles of morality, professional ethics and patriotism

Training Outcomes

At the end of the module the trainee will be able to attain the following training objectives:

- Define basic concept of morality.
- Apply professional ethics.
- Develop the practice of patriotic personality

Module contents:

Unit One: Basic concept of morality

- 1.1. Concept of morality
- 1.2. Principles of moral
- 1.3. Relationship of moral and ethics

Unit Two: professional ethics

- 2.1. Ethics and professional ethics
- 2.2. Mechanisms of ethical decision

Unite Three: Development of patriotic personality.

- 3.1. Basic concept of patriotism
- 3.2. Patriotic citizen
- 3.3. Executing responsibility

Learning Methods:

- Lecture
- Group discussion
- Question and answer
- Brainstorming

Assessment Methods:

- Written test
- Oral questioning
- Presentation
- Interview
- Assignment

Assessment Criteria:

Unit One: Basic concept of morality

- Define concept of morality
- List principle of moral
- Explain relationship of moral and ethics

Unit Two: basic concept of ethics professionalism

- Explain ethics and professional ethics.
- Describe evaluation and reflection of ethics.
- List mechanisms of ethical decision

Unit Three: practical development of patriotic personality.

- Explain basic concept of patriotism.
- Explain patriotic citizen.
- Execute responsibility

Module Code and Title	ENT EMP M09 0523: Develop business practice
Nominal Duration:	4 Hrs.
Module Description: This module covers knowledge, skills and attitude required to understand the concepts, principles, functions, strategies, and methods to develop business. It also covers identifying and developing the basic business practice.	
Training Outcomes At the end of the module the trainee will be able to attain the following training objectives: <ul style="list-style-type: none">• Understand Entrepreneurship• Identify business opportunity.• Develop business skill	
Module Contents: Unit 1. Entrepreneurship <ul style="list-style-type: none">• Concept of Entrepreneurship• Characteristics of Successful Entrepreneurs Unit 2. Identifying business opportunity <ul style="list-style-type: none">• Understanding Business opportunities• Identifying and Assessing Business Opportunities Unit Three: Developing business skill <ul style="list-style-type: none">• Basic Marketing Skills• Basic Financial Literacy• Managing and Leading a Sanitation Enterprise	

Learning Methods:

- Lecture
- Demonstration
- Group discussion
- Assignment

Assessment Methods:

- Written test
- Oral questioning
- Observation
- Demonstration

Assessment Criteria:

Unit One. Entrepreneurship

- Understand Business opportunities
- Identify and Assess Business Opportunities

Unit Two: Identifying business opportunity

- Understand Business opportunities
- Identify and Assess Business Opportunities

Unit Three: Developing business skill

- Understand Basic Marketing Skills
- Understand Basic Financial Literacy
- Manage Lead a Sanitation Enterprise

RESOURCE REQUIREMENTS

Item No.	Category/Item	Description/ Specifications	Quantity	Recommended Ratio (Item: Trainee)
A.	Learning Materials			
1.	TTLM	Trainers Group	25	1:1
2.	BATCODE	Technical Specification and Method of Measurement General Requirements [Book].	5	1:5
3.	Book	Bill of Quantity Preparation.	5	1:5
		Cost Estimation and Unit Rate Analysis for Building [Book]. - 2010.	5	1:5
		Formula General Formula College from EBCS [Book].		
		Project Health Center Construction Quality Management Manual For 747 [Book].		
	Onsite Household Latrine Technology Option Planning and Construction Manual	Health Federal Democratic Republic of Ethiopia Ministry of Onsite Household Latrine Technology Option Planning and Construction Manual [Book]. - Addis Ababa Ethiopia: MoH, 2017.		
	Siraj Nasir	Quantity Surveying [Book]. - Haramaya: University, 2007.		
B.	Learning Facilities & Infrastructure			
1.	Lecture Room	5*5m	1	1:25
2.	Library	20*30m	1	1:250
3.	Cooperative lab	7*9m	2	1:25
C.	Consumable Materials			
1.	Paper	A4	5rim	1:5
2.	Pen	Ball Point	5	1:5
3.	Marker	Packet	25	1:1

4	Duster	Packet	5	1:5
5	Pencil	Pcs	25	1:1
6	Glove	Pcs	25	1:1
7	Eye Goggle	Pcs	25	1:1
8	Helmet	Pcs	25	1:1
9	Safety Shoes and Clothes	Pcs	25	1:1
10	Mask Or Barrier	Pcs	1	1:25
11	Resuscitation Mask	Pcs	25	1:1
12	Buckets	Pcs	1	1:25
13	Clay	Kilogram	25	1:1
14	Soap	Litre	10	1:2.5
15	Brickwork	6*12*25cm	25pcs	1:5
16	Cement	Kg	As Required	1:5
17	Glass	M ²	As Required	1:5
18	Tiles	M ²	As Required	1:5
19	Timber	2.5 * 20 * 400cm	As Required	1:5
20	Metal	Steel	As Required	1:5
21	Plastic Packet	Pcs	5	1:5
22	Sand	M ³	As Required	1:5
23	Aggregate	M ³	As Required	1:5
D.	Tools and Equipment's			
1	White Board	240 Cm *120 Cm	1 Pcs	1:25
2	Computer	Desk Top Computer	5	1:5
3	Printer	Conca	5	1:5
4	Computer Table	Wood Table	5	1:5
5	Shelf	File Cabinet Wood/Steel type	5	1:5

6	Lcd Projector	Epson	1	1:25
7	Dumpers	Pcs	1	1:25
8	Stirring Paddle	Pcs	1	1:25
9	Weighting Balance	Pcs	1	1:25
10	Jar Mill	Pcs	1	1:25
11	Pans	Pcs	1	1:25
12	Filter Press	Pcs	1	1:25
13	Pug Mill	Pcs	1	1:25
14	Sieve	Pcs	10	1:2.5
15	Sticker	Pcs	10	1:2.5
16	Signboard	Pcs	10	1:2.5
17	Nails	Kilogram	5	1:5
18	Shelves	Pcs	5	1:5
19	Chip Wood	Pcs	5	1:5
20	Shadow Board/Tools Board	Pcs	5	1:5
21	Shovels	Steel	5	1:5
22	Crow Bars	Steel	5	1:5
23	Hammers	Sledge hammer	25	1:1
24	Wheelbarrows.	Capacity 85 Kg	5	1:5

3. PARTICIPANTS OF THIS MODULE (TRAINING MATERIAL) PREPARATION

No	Name	Qualification (Level)	Field of Study	Organization/ Institution	Mobile number	E-mail
1	Andualem Abebayehu	MSc	Hydraulics and Water Resource Engineering	Debark PTC	0982095105	andualemabebayhu@gmail.com
2	Mesfin Wondimu	BSc	Construction Technology and Management	Aleta Wondo PTC	0916981613	mesfinwondimu@gmail.com
3	Girema Moges	BSc	Civil Engineering	Wolayita PTC	0911530068	girmamoges@gmail.com
4	Dagim Fekadu	MSc	Construction Technology and Management	Ambo PTC	0910140914	dag.astu.2005@gmail.com
5	Solomon Tadesse	BSc	Construction Technology and Management	GWPTC	0921414347	soletadss@gmail.com
6	Esmael Mohammed	BSc	Water Work construction technology	Kombolcha PTC	0915543225	Bad9565@gmail.com
7	Desalegn Alemu	BSc	Construction Technology and Management	Woliso PTC	0926771683	desalgnalen@gmail.com
8	Tesfaye Assegidew	MSc	Construction Technology and Management	Butajira PTC	0913442444	tesfayeessegidew@gmail.com
9	Mulualem Misganaw	BSc	PLSC	MOLS	0910463950	mulu9192@gmail.com
10	Bacha Kitesa	MPH, MA	Environmental Health since, public health, Project Management	PSI	0910757797	bachakitesa@gmail.com
11	Mesfin Habtemariam	MA, BSc	Civil Engineering, Project Management	PSI	0911124992	mesfinhabtemariam@gmail.com
12	Fisum G/ Egizebiher	MPH	Environmental Health Science	PSI	0913222354	fegziabher@psiet.org
13	Ziyade Ahmed	MPH	Environmental Health Science	MOH	0916586603	
14	Wondayehu Wube	BSc, MPH	Environmental Health Science	MOH	0972651005	wondayehuwube@gmail.com



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Ministry of Labor and Skills