

# TRAINING REGULATIONS



## MASONRY NC I

**CIVIL WORKS  
(CONSTRUCTION SECTOR)**

**TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY**  
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# TRAINING REGULATIONS FOR MASONRY NC I

## SECTION 1 MASONRY NC I QUALIFICATION

The MASONRY NC I Qualification consists of competencies that a person must achieve that will enable him/her to prepare masonry materials and perform basic masonry works.

This Qualification is packaged from the competency map of Construction – Civil Works sub-sector as shown in Annex A.

The Units of Competency comprising this Qualification include the following:

### **CODE NO. BASIC COMPETENCIES**

#### **Units of Competency**

500311101	Receive and respond to workplace communication
500311102	Work with others
500311103	Demonstrate work values
500311104	Practice basic housekeeping procedures

### **CODE NO. COMMON COMPETENCIES**

#### **Units of Competency**

CON931201	Prepare construction materials and tools
CON311201	Observe procedures, specifications and manuals of instruction
CON311203	Perform mensurations and calculations
CON311204	Maintain tools and equipment

### **CODE NO. CORE COMPETENCIES**

#### **Units of Competency**

CON712301	Prepare masonry materials
CON712302	Perform basic masonry works

A person who has achieved this Qualification is competent to be a:

- Mason NC I

## SECTION 2 COMPETENCY STANDARDS

This section gives the details of the contents of the basic, common and core units of competency required in **MASONRY NC I**.

### BASIC COMPETENCIES

**UNIT OF COMPETENCY: RECEIVE AND RESPOND TO WORKPLACE COMMUNICATION**

**UNIT CODE : 500311101**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to receive, respond and act on verbal and written communication.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized</i> terms are elaborated in the Range of Variables
1. Follow routine spoken messages	1.1. Required information is gathered by listening attentively and correctly interpreting or understanding information/instructions 1.2. Instructions/information are properly recorded 1.3. Instructions are acted upon immediately in accordance with information received 1.4. Clarification is sought from workplace supervisor on all occasions when any instruction/information is not clear
2. Perform workplace duties following written notices	2.1 <b>Written notices and instructions</b> are read and interpreted correctly in accordance with <b>organizational guidelines</b> 2.2 Routine written instruction are followed in sequence 2.3 Feedback is given to workplace supervisor based on the instructions/information received

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Written notices and instructions	It refers to : 1.1. Handwritten and printed material 1.2. Internal memos 1.3. External communications 1.4. Electronic mail 1.5. Briefing notes 1.6. General correspondence 1.7. Marketing materials 1.8. Journal articles
2. Organizational Guidelines	It may include: 2.1. Information documentation procedures 2.2. Company policies and procedures 2.3. Organization manuals 2.4. Service manual

## EVIDENCE GUIDE

<p>1. Critical aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1. Demonstrated knowledge of organizational procedures for handling verbal and written communications</li> <li>1.2. Received and acted on verbal messages and instructions</li> <li>1.3. Demonstrated competency in recording instructions/information</li> </ol>
<p>2. Underpinning Knowledge and Attitudes</p>	<ol style="list-style-type: none"> <li>2.1. Knowledge of organizational policies/guidelines in regard to processing internal/external information</li> <li>2.2. Ethical work practices in handling communications</li> <li>2.3. Communication process</li> </ol>
<p>3. Underpinning Skills</p>	<ol style="list-style-type: none"> <li>3.1. Conciseness in receiving and clarifying messages/information/communication</li> <li>3.2. Accuracy in recording messages/information</li> </ol>
<p>4. Resource Implications</p>	<p>The following resources MUST be provided:</p> <ol style="list-style-type: none"> <li>4.1. Pens</li> <li>4.2. Note pad</li> </ol>
<p>5. Methods of Assessment</p>	<p>Competency may be assessed through:</p> <ol style="list-style-type: none"> <li>5.1. Direct Observation</li> <li>5.2. Oral interview</li> <li>5.3. Written Evaluation</li> <li>5.4. Third Party Report</li> </ol>
<p>6. Context of Assessment</p>	<ol style="list-style-type: none"> <li>6.1. Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions</li> </ol>

**UNIT OF COMPETENCY: WORK WITH OTHERS**  
**UNIT CODE : 500311102**

**UNIT DESCRIPTOR :** This unit covers the skills, knowledge and attitudes required to develop workplace relationship and contribute in workplace activities

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized</i> terms are elaborated in the Range of Variables
1. Develop effective workplace relationship	1.1 <b>Duties and responsibilities</b> are done in a positive manner to promote cooperation and good relationship 1.2 Assistance is sought from <b>workgroup</b> when difficulties arise and addressed through discussions 1.3 <b>Feedback</b> provided by others in the team is encouraged, acknowledged and acted upon 1.4 Differences in personal values and beliefs are respected and acknowledged in the development
2. Contribute to work group activities	2.1 <b>Support is provided to team members</b> to ensure workgroup goals are met 2.2 Constructive contributions to workgroup goals and tasks are made according to <b>organizational requirements</b> 2.3 Information relevant to work is shared with team members to ensure designated goals are met

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Duties and responsibilities	1.1 Job description and employment arrangements 1.2 Organization's policy relevant to work role 1.3 Organizational structures 1.4 Supervision and accountability requirements including OHS 1.5 Code of conduct
2. Work group	2.1 Supervisor or manager 2.2 Peers/work colleagues 2.3 Other members of the organization
3. Feedback on performance	3.1 Formal/Informal performance appraisal 3.2 Obtaining feedback from supervisors and colleagues and clients 3.3 Personal, reflective behavior strategies 3.4 Routine organizational methods for monitoring service delivery
4. Providing support to team members	4.1 Explaining/clarifying 4.2 Helping colleagues 4.3 Providing encouragement 4.4 Providing feedback to another team member 4.5 Undertaking extra tasks if necessary
5. Organizational requirements	5.1 Goals, objectives, plans, system and processes 5.2 Legal and organization policy/guidelines 5.3 OHS policies, procedures and programs 5.4 Ethical standards 5.5 Defined resources parameters 5.6 Quality and continuous improvement processes and standards



## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1. Provided support to team members to ensure goals are met</li> <li>1.2. Acted on feedback from clients and colleagues</li> <li>1.3. Accessed learning opportunities to extend own personal work competencies to enhance team goals and outcomes</li> </ul>
<p>2. Underpinning Knowledge</p>	<ul style="list-style-type: none"> <li>2.1. The relevant legislation that affects operations, especially with regards to safety</li> <li>2.2. Reasons why cooperation and good relationships are important</li> <li>2.3. Knowledge of the organization's policies, plans and procedures</li> <li>2.4. Understanding how to elicit and interpret feedback</li> <li>2.5. Knowledge of workgroup member's responsibilities and duties</li> <li>2.6. Importance of demonstrating respect and empathy in dealings with colleagues</li> <li>2.7. Understanding of how to identify and prioritize personal development opportunities and options</li> </ul>
<p>3. Underpinning Skills</p>	<ul style="list-style-type: none"> <li>3.1. Ability to read and understand the organization's policies and work procedures</li> <li>3.2. Write simple instructions for particular routine tasks</li> <li>3.3. Interpret information gained from correspondence</li> <li>3.4. Communication skills to request advice, receive feedback and work with a team</li> <li>3.5. Planning skills to organized work priorities and arrangement</li> <li>3.6. Technology skills including the ability to select and use technology appropriate to a task</li> <li>3.7. Ability to relate to people from a range of social, cultural and ethnic backgrounds.</li> </ul>

4. Resource Implications	<p>The following resources <b>MUST</b> be provided:</p> <p>4.1. Access to relevant workplace or appropriately simulated environment where assessment can take place</p> <p>4.2. Materials relevant to the proposed activity or task</p>
5. Methods of Assessment	<p>Competency may be assessed through:</p> <p>5.1. Direct observations of work activities of the individual member in relation to the work activities of the group</p> <p>5.2. Observation of simulation and/or role play involving the participation of individual member to the attainment of organizational goal</p> <p>5.3. Case studies and scenarios as a basis for discussion of issues and strategies</p>
6. Context for Assessment	<p>6.1. Competency assessment may occur in workplace or any appropriately simulated environment</p> <p>6.2. Assessment shall be observed while task are being undertaken whether individually or in group</p>

**UNIT OF COMPETENCY: DEMONSTRATE WORK VALUES**  
**UNIT CODE : 50031103**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills, and attitude in demonstrating proper work values.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized</i> terms are elaborated in the Range of Variables
1. Define the purpose of work	1.1 One's unique sense of purpose for working and the why's of work are identified, reflected on and clearly defined for one's development as a person and as a member of society. 1.2 Personal mission is in harmony with company's values
2. Apply work values/ethics	2.1 <b>Work values/ethics/concepts</b> are classified and reaffirmed in accordance with the transparent company ethical standards, policies and guidelines. 2.2 <b>Work practices</b> are undertaken in compliance with industry work ethical standards, organizational policy and guidelines 2.3 Personal behavior and relationships with co-workers and/or clients are conducted in accordance with ethical standards, policy and guidelines. 2.4 <b>Company resources</b> are used in accordance with transparent company ethical standard, policies and guidelines.
3. Deal with ethical problems	3.1 Company ethical standards, organizational policy and guidelines on the prevention and reporting of unethical conduct are accessed and applied in accordance with transparent company ethical standard, policies and guidelines. 3.2 <b>Work incidents/situations</b> are reported and/or resolved in accordance with company protocol/guidelines. 3.3 Resolution and/or referral of ethical problems identified are used as learning opportunities.
4. Maintain integrity of conduct in the workplace	4.1 Personal work practices and values are demonstrated consistently with acceptable ethical conduct and company's core values. 4.2 <b>Instructions</b> to co-workers are provided based on ethical, lawful and reasonable directives. 4.3 Company values/practices are shared with co-workers using appropriate behavior and language.

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Work values / ethics / concepts	May include but are not limited to: 1.1 Commitment/ Dedication 1.2 Sense of urgency 1.3 Sense of purpose 1.4 Love for work 1.5 High motivation 1.6 Orderliness 1.7 Reliability 1.8 Competence 1.9 Dependability 1.10 Goal-oriented 1.11 Sense of responsibility 1.12 Being knowledgeable 1.13 Loyalty to work/company 1.14 Sensitivity to others 1.15 Compassion/Caring attitude 1.16 Balancing between family and work 1.17 Pakikisama 1.18 Bayanihan spirit/teamwork 1.19 Sense of nationalism
2. Work practices	2.1 Quality of work 2.2 Punctuality 2.3 Efficiency 2.4 Effectiveness 2.5 Productivity 2.6 Resourcefulness 2.7 Innovativeness/Creativity 2.8 Cost consciousness 2.9 5S 2.10 Attention to details
3. Incidents/situations	3.1 Violent/intensed dispute or argument 3.2 Gambling 3.3 Use of prohibited substances 3.4 Pilferages 3.5 Damage to person or property 3.6 Vandalism 3.7 Falsification 3.8 Bribery 3.9 Sexual Harassment 3.10 Blackmail

<b>VARIABLE</b>	<b>RANGE</b>
4. Company resources	4.1 Consumable materials 4.2 Equipment/Machineries 4.3 Human 4.4 Time 4.5 Financial resources
5. Instructions	5.1 Verbal 5.2 Written

## EVIDENCE GUIDE

<p>1. Critical Aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Defined one's unique sense of purpose for working</li> <li>1.2 Clarified and affirmed work values/ethics/concepts consistently in the workplace</li> <li>1.3 Demonstrated work practices satisfactorily and consistently in compliance with industry work ethical standards, organizational policy and guidelines</li> <li>1.4 Demonstrated personal behavior and relationships with co-workers and/or clients consistent with ethical standards, policy and guidelines</li> <li>1.5 Used company resources in accordance with company ethical standard, policies and guidelines.</li> <li>1.6 Followed company ethical standards, organizational policy and guidelines on the prevention and reporting of unethical conduct/behavior</li> </ul>
<p>2. Underpinning Knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Occupational health and safety</li> <li>2.2 Work values and ethics</li> <li>2.3 Company performance and ethical standards</li> <li>2.4 Company policies and guidelines</li> <li>2.5 Fundamental rights at work including gender sensitivity</li> <li>2.6 Work responsibilities/job functions</li> <li>2.7 Corporate social responsibilities</li> <li>2.8 Company code of conduct/values</li> <li>2.9 Balancing work and family responsibilities</li> </ul>
<p>3. Underpinning Skills</p>	<ul style="list-style-type: none"> <li>3.1 Interpersonal skills</li> <li>3.2 Communication skills</li> <li>3.3 Self awareness, understanding and acceptance</li> <li>3.4 Application of good manners and right conduct</li> </ul>
<p>4. Resource Implications</p>	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>4.1 Workplace or assessment location</li> <li>4.2 Case studies/Scenarios</li> </ul>
<p>5. Methods of Assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Portfolio Assessment</li> <li>5.2 Interview</li> <li>5.3 Third Party Reports</li> </ul>
<p>6. Context of Assessment</p>	<ul style="list-style-type: none"> <li>6.1 Competency may be assessed in the work place or in a simulated work place setting</li> </ul>

**UNIT OF COMPETENCY: PRACTICE HOUSEKEEPING PROCEDURES****UNIT CODE : 500311104****UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes required to apply the basic housekeeping procedures.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized</i> terms are elaborated in the Range of Variables
1. Sort and remove unnecessary items	1.1 Reusable, recyclable materials are sorted in accordance with company/office procedures 1.2 <b>Unnecessary items</b> are removed and disposed of in accordance with company or office procedures
2. Arrange items	2.1 Items are arranged in accordance with company/office housekeeping procedures 2.2 Work area is arranged according to job requirements 2.3 Activities are prioritized based on instructions. 2.4 Items are provided with clear and visible <b>identification marks</b> based on procedure 2.4 Safety equipment and evacuation passages are kept clear and accessible based on instructions
3. Maintain work area, tools and equipment	3.1 Cleanliness and orderliness of work area is maintained in accordance with company/office procedures 3.2 Tools and equipment are cleaned in accordance with manufacturer's instructions/manual 3.3 <b>Minor repairs</b> are performed on tools and equipment in accordance with manufacturer's instruction/manual 3.4 Defective tools and equipment are reported to immediate supervisor
4. Follow standardized work process and procedures	4.1 Materials for common use are maintained in designated area based on procedures 4.2 Work is performed according to standard work procedures 4.3 Abnormal incidents are reported to immediate supervisor
5. Perform work spontaneously	5.1 Work is performed as per instruction 5.2 Company and office <b>decorum</b> are followed and complied with 5.3 Work is performed in accordance with occupational health and safety (OHS) requirements

**RANGE OF VARIABLES**

<b>VARIABLE</b>	<b>RANGE</b>
1. Unnecessary items	May include but are not limited to: 1.1 Non-recyclable materials 1.2 Unserviceable tools and equipment 1.3 Pictures, posters and other materials not related to work activity 1.4 Waste materials
2. Identification marks	2.1 Labels 2.2 Tags 2.3 Color coding
3. Decorum	3.1 Company/ office rules and regulations 3.2 Company/ office uniform 3.3 Behavior
4. Minor repair	Minor repair include but not limited to: 4.1 Replacement of parts 4.2 Application of lubricants 4.3 Sharpening of tools 4.4 Tightening of nuts, bolts and screws



## EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Practiced the basic procedures of 5S
2. Underpinning Knowledge and Attitudes	2.1 Principles of 5S 2.2 Work process and procedures 2.3 Safety signs and symbols 2.4 General OH&S principles and legislation 2.5 Environmental requirements relative to work safety 2.6 Accident/Hazard reporting procedures
3. Underpinning Skills	3.1 Basic communication skills 3.2 Interpersonal skills 3.3 Reading skills required to interpret instructions 3.4 Reporting/recording accidents and potential hazards
4. Resource Implications	The following resources <b>MUST</b> be provided: 4.1 Facilities, materials tools and equipment necessary for the activity
5. Methods of Assessment	Competency must be assessed through: 5.1 Third party report 5.2 Interview 5.3 Demonstration with questioning
6. Context for Assessment	6.1 Competency may be assessed in the work place or in a simulated work place setting

## COMMON COMPETENCIES

**UNIT OF COMPETENCY: PREPARE CONSTRUCTION MATERIALS AND TOOLS**  
**UNIT CODE : CON931201**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes on identifying, requesting and receiving construction materials and tools based on the required performance standards.

ELEMENT	PERFORMANCE CRITERIA
	<i>Italicized</i> terms are elaborated in the Range of Variable
1. Identify materials	1.1 <b>Materials</b> are listed as per job requirements 1.2 Quantity and <b>description of materials</b> conform with the job requirements 1.3 Tools and accessories are identified according to job requirements
2. Requisition materials	2.1 Materials and tools needed are requested according to the list prepared 2.2 Request is done as per <b>company standard operating procedures (SOP)</b> 2.3 Substitute materials and tools are provided without sacrificing cost and quality of work
3. Receive and inspect materials	3.1 Materials and tools issued are inspected as per quantity and specification 3.2 Tools, accessories and materials are checked for damages according to enterprise procedures 3.3 Materials and tools are set aside to appropriate location nearest to the workplace

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Materials and Tools	1.1 Electrical supplies 1.2 Structural 1.3 Plumbing 1.4 Welding/pipefitting 1.5 Carpentry 1.6 Masonry
2. Description of Materials and Tools	2.1 Brand name 2.2 Size 2.3 Capacity 2.4 Kind of application
3. Company standard procedures	3.1 Job order 3.2 Requisition slip 3.3 Borrower slip

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Listed materials and tools according to quantity and job requirements</li> <li>1.2 Requested materials and tools according to the list prepared and as per company SOP</li> <li>1.3 Inspected issued materials and tools as per quantity and job specifications</li> <li>1.4 Tools provided with appropriate safety devices</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Types and uses of construction materials and tools</li> <li>2.2 Different forms</li> <li>2.3 Requisition procedures</li> </ul>
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Preparing materials and tools</li> <li>3.2 Proper handling of tools and equipment</li> <li>3.3 Following instructions</li> </ul>
<p>4. Resource implications</p>	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>4.1 Workplace location</li> <li>4.2 Materials relevant to the unit of competency</li> <li>4.3 Technical plans, drawings and specifications relevant to the activities</li> </ul>
<p>5. Methods of assessment</p>	<p>Competency in this unit must be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Direct observation and oral questioning</li> </ul>
<p>6. Context of assessment</p>	<ul style="list-style-type: none"> <li>6.1 Competency may be assessed in the workplace or in a simulated workplace</li> <li>6.2 Competency assessment must be undertaken in accordance with the endorsed TESDA assessment guidelines</li> </ul>

**UNIT OF COMPETENCY: OBSERVE PROCEDURES, SPECIFICATIONS AND MANUALS OF INSTRUCTIONS**

**UNIT CODE : CON311201**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes on identifying, interpreting, applying services to specifications and manuals and storing manuals.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized</i> terms are elaborated in the Range of Variables
1. Identify and access specification/manuals	1.1 Appropriate manuals are identified and accessed as per job requirements 1.2 Version and date of manual are checked to ensure that correct specification and procedures are identified
2. Interpret manuals	2.1 Relevant sections, chapters of specifications/manuals are located in relation to the work to be conducted 2.2 Information and procedure in the manual are interpreted in accordance with industry practices
3. Apply information in manual	3.1 <b>Manual</b> is interpreted according to job requirements 3.2 Work steps are correctly identified in accordance with manufacturer's specification 3.3 Manual data are applied according to the given task 3.4 All correct sequencing and adjustments are interpreted in accordance with information contained on the manual or specifications
4. Store manuals	4.1 Manual or specification is stored appropriately to prevent damage, ready access and updating of information when required in accordance with company requirements

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Procedures, Specifications and Manuals of Instructions	Kinds of manuals: 1.1 Manufacturer's Specification Manual 1.2 Repair Manual 1.3 Maintenance Procedure Manual 1.4 Periodic Maintenance Manual

## EVIDENCE GUIDE

1. Critical aspects of competency	<p>Assessment requires that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Identified and accessed specification/manuals as per job requirements</li> <li>1.2 Interpreted manuals in accordance with industry practices</li> <li>1.3 Applied information in manuals according to the given task</li> <li>1.4 Stored manuals in accordance with company requirements</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 Types of manuals used in construction sector</li> <li>2.2 Identification of symbols used in the manuals</li> <li>2.3 Identification of units of measurements</li> <li>2.4 Unit conversion</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Reading and comprehension skills required to identify and interpret construction manuals and specifications</li> <li>3.2 Accessing information and data</li> </ul>
4. Resource implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>4.1 All manuals/catalogues relative to construction sector</li> </ul>
5. Methods of assessment	<p>Competency should be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Direct observation</li> <li>5.2 Questions/interview</li> </ul> <p>Assessment of underpinning knowledge and practical skills may be combined</p>
6. Context of assessment	<ul style="list-style-type: none"> <li>6.1 Competency assessment must be undertaken in accordance with the endorsed TESDA assessment guidelines</li> <li>6.2 Assessment may be conducted in the workplace or a simulated environment</li> </ul>

**UNIT OF COMPETENCY: PERFORM MENSURATIONS AND CALCULATIONS**

**UNIT CODE : CON311203**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes on identifying and measuring objects based on the required performance standards.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized terms</i> are elaborated in the Range of Variable
1. Select measuring instruments	1.1 Object or component to be measured is identified, classified and interpreted according to the appropriate regular <b>geometric shape</b> 1.2 Measuring tools are selected/identified as per object to be measured or job requirements 1.3 Correct specifications are obtained from relevant sources 1.4 Appropriate measuring instruments are selected according to job requirements 1.5 Alternative measuring tools are used without sacrificing cost and quality of work
2. Carry out measurements and calculations	2.1 Accurate <b>measurements</b> are obtained according to job requirements 2.2 Alternative measuring tools are used without sacrificing cost and quality of work 2.3 <b>Calculation</b> needed to complete work tasks are performed using the four basic process of addition (+), subtraction (-), multiplication (x) and division (/) including but not limited to: trigonometric functions, algebraic computations 2.4 Calculations involving fractions, percentages and mixed numbers are used to complete workplace tasks 2.5 Numerical computation is self-checked and corrected for accuracy 2.6 Instruments are read to the limit of accuracy of the tool 2.7 Systems of measurement identified and converted according to job requirements/ISO 2.7 Workpieces are measured according to job requirements



## RANGE OF VARIABLES

VARIABLE	RANGE
1. Geometric shape	Including but is not limited to: 1.1 Round 1.2 Square 1.3 Rectangular 1.4 Triangle 1.5 Sphere 1.6 Conical
2. Measuring instruments	Including but not limited to: 2.1 Micrometer (In-out, depth) 2.2 Vernier caliper (out, inside) 2.3 Dial gauge with mag, std. 2.4 Straight edge 2.5 Thickness gauge 2.6 Torque gauge 2.7 Small hole gauge 2.8 Telescopic gauge 2.9 Try-square 2.10 Protractor 2.11 Combination gauge 2.12 Steel rule 2.13 Voltmeter 2.14 Ammeter 2.15 Mega-ohmmeter 2.16 Kilowatt hour meter 2.17 Gauges 2.18 Thermometers
3. Measurements and calculations	3.1 Linear 3.2 Volume 3.3 Area 3.4 Wattage 3.5 Voltage 3.6 Resistance 3.7 Amperage 3.8 Frequency 3.9 Impedance

VARIABLE	RANGE
	3.10 Conductance 3.11 Capacitance 3.12 Displacement 3.16 Inside diameter 3.17 Circumference 3.18 Length 3.19 Thickness 3.20 Outside diameter 3.21 Taper 3.22 Out of roundness 3.23 Oil clearance 3.24 End play/Thrust clearance

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires that the candidate:</p> <p>1.1 Selected and prepared appropriate measuring instruments in accordance with job requirements</p> <p>1.2 Performed measurements and calculations according to job requirements/ ISO</p>
<p>2. Underpinning knowledge</p>	<p><b>TRADE MATHEMATICS / MENSURATION</b></p> <p>2.1 Four fundamental operation</p> <p>2.2 Linear measurement</p> <p>2.3 Dimensions</p> <p>2.4 Unit conversion</p> <p>2.5 Ratio and proportion</p> <p>2.6 Trigonometric functions</p> <p>2.8 Algebraic equations</p>
<p>3. Underpinning skills</p>	<p>3.1 Performing calculation by addition, subtraction, multiplication and division; trigonometric functions and algebraic equations</p> <p>3.2 Visualizing objects and shapes</p> <p>3.3 Interpreting formulas for volume, areas, perimeters of plane and geometric figures</p> <p>3.4 Proper handling of measuring instruments</p>
<p>4. Resource implications</p>	<p>The following resources should be provided:</p> <p>4.1 Workplace location</p> <p>4.2 Problems to solve</p> <p>4.3 Measuring instrument appropriate to carry out tasks</p> <p>4.4 Instructional materials relevant to the propose activity</p> <p>Assessment of underpinning knowledge and practical skills may be combined</p>
<p>5. Methods of assessment</p>	<p>Competency should be assessed through:</p> <p>5.1 Actual demonstration</p> <p>5.2 Direct observation</p> <p>5.3 Written test/questioning related to underpinning knowledge</p>
<p>6. Context of assessment</p>	<p>6.1 Competency assessment may occur in workplace or any appropriate simulated environment</p> <p>6.2 Assessment shall be observed while task are being undertaken whether individually or in group</p> <p>6.3 Competency assessment must be undertaken in accordance with the TESDA assessment guidelines</p>

**UNIT OF COMPETENCY: MAINTAIN TOOLS AND EQUIPMENT**

**UNIT CODE : CON311204**

**UNIT DESCRIPTOR :** This unit covers the knowledge, skills and attitudes on checking condition, performing preventive maintenance and storing of tools and equipment based on the required performance standards.

<b>ELEMENTS</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized</i> terms are elaborated in the Range of Variables
1. Check condition of tools and equipment	1.1 <b>Materials, tools and equipment</b> are identified according to classification and job requirements 1.2 Non-functional tools and equipment are segregated and labeled according to classification 1.3 Safety of tools and equipment are observed in accordance with manufacturer's instructions 1.4 Condition of <b>PPE</b> are checked in accordance with manufacturer's instructions
2. Perform basic preventive maintenance	2.1 Appropriate lubricants are identified according to types of equipment 2.2 Tools and equipment are lubricated according to preventive maintenance schedule or manufacturer's specifications 2.3 Measuring instruments are checked and calibrated in accordance with manufacturer's instructions 2.4 Tools are cleaned and lubricated according to standard procedures 2.5 Defective instruments, equipment and accessories are inspected and replaced according to manufacturer's specifications 2.6 Tools are inspected, repaired and replaced after use 2.7 Work place is cleaned and kept in safe state in line with OSHA regulations
3. Store tools and equipment	3.1 Inventory of tools, instruments and equipment are conducted and recorded as per company practices 3.2 Tools and equipment are stored safely in appropriate locations in accordance with manufacturer's specifications or company procedures

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Materials	Including but not limited to: 1.1 Lubricants 1.2 Cleaning materials 1.3 Rust remover 1.4 Rugs 1.5 Spare parts
2. Tools and equipment	Including but not limited to: <b>2.1 Tools</b> Cutting tools - hacksaw, crosscut saw, rip saw Boring tools - auger, brace, grinlet, hand drill Holding tools - vise grip, C-clamp, bench vise Threading tools - die and stock, taps  <b>2.2 Measuring instruments/equipment</b>
3. PPE	Including but not limited to: 3.1 Goggles 3.2 Gloves 3.3 Safety shoes 3.4 Aprons/Coveralls
4. Forms	4.1 Maintenance schedule forms 4.2 Requisition slip 4.3 Inventory Form 4.4 Inspection Form 4.5 Procedures

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Selected and used appropriate processes, tools and equipment to carry out task</li> <li>1.2 Identified functional and non-functional tools and equipment</li> <li>1.3 Checked, lubricated and calibrated tools, equipment and instruments according to manufacturer's specifications</li> <li>1.4 Replaced defective tools, equipment and their accessories</li> <li>1.5 Observed and applied safe handling of tools and equipment and safety work practices</li> <li>1.6 Prepared and submitted inventory report, where applicable</li> <li>1.7 Maintained workplace in accordance with OHSA regulations</li> <li>1.8 Stored tools and equipment safely in appropriate locations and in accordance with company practices</li> </ul>
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> <li>2.1 <b>SAFETY PRACTICES</b> <ul style="list-style-type: none"> <li>2.1.1 Use of PPE</li> <li>2.1.2 Handling of tools and equipment</li> <li>2.1.3 Good housekeeping</li> </ul> </li> <li>2.2 <b>MATERIALS, TOOLS AND EQUIPMENT</b> <ul style="list-style-type: none"> <li>2.2.1 Types and uses of lubricants</li> <li>2.2.2 Types and uses of cleaning materials</li> <li>2.2.3 Types and uses of measuring instruments and equipment</li> </ul> </li> <li>2.3 <b>PREVENTIVE MAINTENANCE</b> <ul style="list-style-type: none"> <li>2.3.1 Methods and techniques</li> <li>2.3.2 Procedures</li> </ul> </li> </ul>
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> <li>3.1 Preparing maintenance materials, tools and equipment</li> <li>3.2 Proper handling of tools and equipment</li> <li>3.3 Performing preventive maintenance</li> <li>3.4 Following instructions</li> </ul>
<p>4. Resource implications</p>	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>4.1 Workplace</li> <li>4.2 Maintenance schedule</li> <li>4.3 Maintenance materials, tools and equipment relevant to the proposed activity/task</li> </ul>
<p>5. Methods of assessment</p>	<p>Competency should be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Direct observation</li> <li>5.2 Written test/questioning relevant to Underpinning knowledge</li> </ul>
<p>6. Context of assessment</p>	<ul style="list-style-type: none"> <li>6.1 Competency assessment may occur in workplace or any appropriate simulated environment</li> <li>6.2 Competency assessment must be undertaken in accordance with the endorsed TESDA assessment guidelines</li> </ul>

## CORE COMPETENCIES

**UNIT OF COMPETENCY** : **PREPARE MASONRY MATERIALS**  
**UNIT CODE** : **CON712301**  
**UNIT DESCRIPTOR** : This unit covers the knowledge, skills and attitudes in preparing mixtures used for masonry laying and surface plastering under supervision by a higher-level mason.

ELEMENT	PERFORMANCE CRITERIA
1. Select materials to be hauled	<p><i>Italicized</i> terms are elaborated in the Range of Variables</p> <p>1.1 Appropriate <b><i>personal protective equipment (PPE)</i></b> is selected and used according to job requirements.</p> <p>1.2 Work instruction is secured from immediate superior</p> <p>1.3 Quantity of materials to be hauled is determined according to the instruction of immediate superior</p> <p>1.4 Correct quantity and type of materials to be used are secured</p>
2. Haul materials	<p>2.1 Availability and serviceability of appropriate <b><i>hauling equipment</i></b> are checked as specified by the immediate superior</p> <p>2.2 Materials are hauled based on work schedule as specified</p> <p>2.3 Required materials are stockpiled based on instructions</p>
3. Mix mortar/concrete	<p>3.1 <b><i>Mixing tools and equipment</i></b> to be used are checked according to job requirements</p> <p>3.2 Concrete or mortar mix and quantity is determined according to the instructions</p> <p>3.3 Concrete or mortar is mixed according to the instructions</p> <p>3.4 Mixed concrete or mortar is supplied to the appropriate personnel based on job requirements</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. PPE	1.1 Helmet 1.2 Safety shoes 1.3 Proper uniform 1.4 Gloves 1.5 Dust mask 1.6 Safety glass
2. Materials	May include but are not limited to: 2.1 Concrete hollow blocks 2.2 Bricks 2.3 Cement 2.4 Sand 2.5 Water 2.6 Reinforcing bars / GI wires 2.7 Concrete / CW nails 2.8 Lumber 2.9 Baluster 2.10 Lime 2.11 Fly ash
3. Hauling equipment	May include but not limited to: 3.1 Skid loader 3.2 Dumper 3.3 Material hoist 3.4 Pallet 3.5 Wheel borrow 3.6 Buggy
4. Mixing tools and equipment	4.1 One bagger mixer 4.2 Two bagger mixer 4.3 Mixing board 4.4 Shovel 4.5 Pails 4.6 Screen wire (2-3mm mesh) 4.7 Mixing box 4.8 Mortar bucket



## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Demonstrated ability to identify correct quantity and type of materials and tools / equipment used in hauling</li> <li>1.2 Demonstrated ability to proper hauling and timely delivery of correct quantity of and type of materials</li> <li>1.3 Demonstrated ability to identify correct quantity and type of materials and tools / equipment used in mixing</li> <li>1.4 Demonstrated ability to use PPEs appropriately</li> </ul>
<p>2. Underpinning Knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Knowledge of basic linear measurement and simple arithmetic</li> <li>2.2 Interpret and follow instructions properly</li> <li>2.3 Prevention of accidents</li> <li>2.4 Safe handling of materials, tools and equipment</li> <li>2.5 Housekeeping for safety</li> <li>2.6 Safety signs and symbols</li> <li>2.7 Types of concrete blocks, bricks, cement and aggregates</li> <li>2.8 Uses and types of mortar</li> <li>2.9 Types of masonry anchors, ties and reinforcements</li> </ul>
<p>3. Underpinning Skills</p>	<ul style="list-style-type: none"> <li>3.1 Working safely</li> <li>3.2 Organizing materials to be used</li> <li>3.3 Mixing mortar</li> <li>3.4 Proper handling and use of tools and equipment</li> <li>3.5 Communicating effectively</li> <li>3.6 Using basic arithmetic</li> </ul>
<p>4. Resource Implications</p>	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>4.1 Workplace location</li> <li>4.2 Tools, and equipment appropriate to masonry jobs</li> <li>4.3 Materials relevant to the masonry works</li> </ul>
<p>5. Methods of Assessment</p>	<p>Competency must be assessed through:</p> <ul style="list-style-type: none"> <li>5.1 Direct Observation on actual workplace</li> <li>5.2 Questions related to underpinning knowledge</li> <li>5.3 Third party report</li> <li>5.4 Demonstration on simulated situation</li> <li>5.5 Oral interview</li> </ul>
<p>6. Context for Assessment</p>	<ul style="list-style-type: none"> <li>6.1 Competency may be assessed in the workplace or in a simulated workplace setting</li> </ul>

**UNIT OF COMPETENCY** : **PERFORM BASIC MASONRY WORKS**  
**UNIT CODE** : **CON712302**  
**UNIT DESCRIPTOR** : This unit deals with the outcomes required to perform basic masonry work under supervision by a higher-level mason. It covers the skills required to perform basic re-bar fabrication such as cutting and bending, erecting and dismantling scaffolds (1.8m and below) perform for fabrication, and stripping, excavating, backfilling and compacting.

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> <i>Italicized</i> terms are elaborated in the Range of Variables
1. Perform basic re-bar fabrication	1.1 appropriate PPE is selected and used according to job requirements 1.2 Steel bars are identified, measured, cut and bent as required 1.3 Cut and bent steel bars are segregated according to <b><i>steel type and size</i></b> 1.4 Basic fabrication of steel bars into wall footing, stiffener columns and lintel beams is performed following the re-bar cutting and bending schedule.
2. Erect and dismantle scaffolding (limited height)	2.1 <b><i>Components of scaffolding</i></b> are checked and verified based on job requirements 2.2 Scaffolding is erected in accordance with <b><i>safety practices</i></b> 2.3 Scaffolding is dismantled in accordance with safety practices 2.4 Components are inventoried and returned to stockpile area based on company rules and procedures
3. Fabricate and strip form works	3.1 <b><i>Form works materials</i></b> are identified, measured, cut and fabricated as required 3.2 Cut materials are segregated according to size 3.3 Basic fabrication of materials into forms for stiffener columns and lintel beams is performed following work instructions. 3.4 Form works are stripped following established procedures

<p>4. Perform excavation and back filling / compaction</p>	<p>4.1 Excavation work is performed based on <b>job specifications</b></p> <p>4.2 Excavated portion is filled with gravel base coarse</p> <p>4.3 Back filling and compaction are performed after concreting of wall footing.</p>
<p>5. Perform concreting work</p>	<p>5.1 Concreting of wall footing, columns and lintel beam based on line and grade is performed</p> <p>5.2 Consolidation of concrete by vibration is performed (use of vibrator, optional)</p>
<p>6. Perform housekeeping</p>	<p>6.1 Materials such as excess re-bars, scaffolding and form works are recovered and stockpiled according to company rules and procedures</p> <p>6.2 Flooring is protected by covering it during concrete hollow blocks / bricks laying and plastering</p> <p>6.3 Flooring is protected by using mixing board during manual mixing work.</p> <p>6.4 Workplace is cleaned and cleared of any obstructions and hazards before, during and after work</p> <p>6.5 Tools, equipment and other materials are cleaned after use</p>

## RANGE OF VARIABLES

VARIABLE	RANGE
1. Steel type and size	1.1 Bar diameter (10, 12, 16 mm) 1.2 Grade of re-bar (40) 1.3 Type of bend
2. Components of scaffolding	May include but not limited to: 2.1 Steel <ul style="list-style-type: none"> <li>2.1.1 A/H frame</li> <li>2.1.2 Cross brace</li> <li>2.1.3 Joint pin</li> <li>2.1.4 Base jack</li> <li>2.1.5 Walking board</li> <li>2.1.6 Toe board</li> <li>2.1.7 Railing</li> <li>2.1.8 Tubular pipe</li> <li>2.1.9 Arm lock</li> </ul> 2.2 Wood <ul style="list-style-type: none"> <li>2.2.1 2 x 4 rough lumber</li> <li>2.2.2 2 x 2 rough lumber</li> <li>2.2.3 Wood planks</li> <li>2.2.4 Nails</li> </ul>
3. Safety practices	3.1 Standard PPE 3.2 Check the condition of the scaffold components 3.3 Provision of appropriate safety signs 3.4 Sufficient lighting for the workplace 3.5 Good housekeeping
4. Form work materials	4.1 Plywood 4.2 Rough lumber 4.3 Nails 4.4 Tie wire 4.5 Form oil 4.6 Tie rod / form tie
5. Job specifications	May include but not limited to: 5.1 Established lay-out 5.2 Soil condition 5.3 Required depth and width

## EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Demonstrated ability to produce the required quantity and quality of fabricated re-bars</li> <li>1.2 Demonstrated ability to produce the required quantity and quality of fabricated form panels through correct cutting of form work materials</li> <li>1.3 Demonstrated ability to erect and dismantle scaffold based on standard safety practices</li> <li>1.4 Demonstrated ability to excavate, backfill and compact soil according to the required width and depth</li> <li>1.5 Demonstrated ability to mix concrete, mortar and grout that conform with the quality requirements</li> <li>1.6 Demonstrated knowledge on the importance of proper housekeeping by cleaning and clearing the work place from any obstructions and safety hazards</li> </ul>
<p>2. Underpinning Knowledge</p>	<ul style="list-style-type: none"> <li>2.1 Basic linear measurement and simple arithmetic</li> <li>2.2 Interpret and follow instructions</li> <li>2.3 Prevention of accidents</li> <li>2.4 Safe handling of materials, tools and equipment</li> <li>2.5 Housekeeping for safety</li> <li>2.6 Safety signs and symbols</li> <li>2.7 Rules on safe erection, use and dismantling of scaffolds (1.8 m and below)</li> <li>2.8 Types of masonry anchors, ties and reinforcements</li> <li>2.9 Form works and platforms</li> <li>2.10 Scaffoldings construction elements and materials</li> <li>2.11 Fabrication of form works and re-bars</li> <li>2.12 Concrete, mortar and grout mix</li> <li>2.13 Excavation, back filling and compaction</li> </ul>
<p>3. Underpinning Skills</p>	<ul style="list-style-type: none"> <li>3.1 Working safely</li> <li>3.2 Organizing materials to be used</li> <li>3.3 Installing and dismantling scaffolds</li> <li>3.4 Proper handling and use of tools and equipment</li> <li>3.5 Communicating effectively</li> <li>3.5 Applying basic arithmetic</li> <li>3.6 Using PPE</li> <li>3.7 Basic concreting</li> </ul>

<p>4. Resource Implications</p>	<p>The following resources must be provided:</p> <p>4.1 Workplace location</p> <p>4.2 Tools, and equipment appropriate to scaffold, re-bars and form works</p> <p>4.3 Materials relevant to scaffold, re-bars and form works</p>
<p>5. Methods of Assessment</p>	<p>Competency must be assessed through:</p> <p>5.1 Direct Observation on actual workplace</p> <p>5.2 Questions related to underpinning knowledge</p> <p>5.3 Third party report</p> <p>5.4 Demonstration on simulated situation</p> <p>5.5 Interview</p>
<p>6. Context for Assessment</p>	<p>6.4 Competency may be assessed in the workplace or in a simulated workplace setting</p>

## SECTION 3 TRAINING STANDARDS

These guidelines are set to provide the Technical and Vocational Education and Training (TVET) providers with information and other important requirements to consider when designing training programs for Masonry NC Level I.

### 3.1 CURRICULUM DESIGN

Course Title: **Masonry**

NC Level: **I**

Nominal Training Hours:

**28 hours (basic)**  
**20 hours (common)**  
**56 hours (core)**

#### Course Description:

This course is designed to enhance the knowledge, skills and attitudes of mason in accordance with industry standards. It covers the basic, common and core competencies in Masonry NC I.

#### BASIC COMPETENCIES

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
1. Receive and respond to workplace communication	1.1 Explain routinary speaking & messages in a workplace  1.2 Follow routinary speaking & message  1.3 Perform work duties following written notices	Group discussion Interaction	Interviews/ questioning  Observation

2. Work with others	<p>2.1 Develop effective workplace relationship</p> <p>2.2 Contribute to work group activities</p>	<p>Group discussion</p> <p>Interaction</p>	<p>Interviews/ questioning</p> <p>Demonstration</p> <p>Observation</p>
3. Demonstrate work values	<p>3.1 Define the purpose of work</p> <p>3.1 Apply work values / ethics</p> <p>3.2 Deal with ethical problems</p> <p>3.3 Maintain integrity of conduct in the workplace</p>	<p>Group discussion</p> <p>Interaction</p>	<p>Demonstration</p> <p>Observation</p> <p>Interviews / questioning</p>
4. Practice housekeeping procedures	<p>4.1 Sort and remove unnecessary items</p> <p>4.2 Arrange items</p> <p>4.3 Maintain work areas, tools and equipment</p> <p>4.4 Follow standardize work process and procedures</p> <p>4.4 Perform work spontaneously</p>	<p>Group discussion</p> <p>Interaction</p>	<p>Demonstration</p> <p>Observation</p> <p>Interviews / questioning</p>



## COMMON COMPETENCIES

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
1. Prepare construction materials and tools	1.1 Identify Materials 1.2 Requisition Materials 1.3 Receive and inspect materials	Audio Visual Simulation Discussion Practical Exercise Demonstration	Direct observation Questions or interview Portfolio (credentials) Written / Oral Test Demonstration
2. Observe procedures, Specifications and Manuals of Instructions	2.1 Identify and access specification/ manuals	Audio Visual Simulation Discussion Practical Lab Demonstration	Direct observation Oral questioning Written test or examination Third party report Demonstration (able to impart knowledge and skills)

<p>3. Perform mensuration and calculation</p>	<p>3.1 Select measuring instruments</p> <p>3.2 Carry out measurements and calculations</p>	<p>Audio Visual Simulation</p> <p>Discussion Practical Lab Demonstration</p>	<p>Direct observation</p> <p>Oral questioning</p> <p>Written test or examination</p> <p>Third party report</p> <p>Demonstration (able to impart knowledge and skills)</p>
<p>4. Maintain tools and equipment</p>	<p>4.1 Check condition of tools and equipment</p> <p>4.2 Perform basic preventive maintenance</p> <p>4.3 Sharpen edge and tooth cutting tools</p> <p>4.4 Store tools and equipment</p>	<p>Audio Visual Simulation</p> <p>Discussion Practical Lab Demonstration</p>	<p>Direct observation of application of tasks</p> <p>Oral questioning</p> <p>Written test or examination</p> <p>Third party report</p> <p>Demonstration</p>

## CORE COMPETENCIES

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
1. Prepare masonry materials	1.1 Identify and explain the uses of tools and equipment in basic masonry works.	Lecture Demonstration	Observation and oral questioning
	1.2 Identify and explain the composition, properties, uses and types of masonry materials.	On-the-Job Dual training	Demonstration and oral questioning
	1.3 Enumerate and explain the basic methods and processes in masonry construction.	Project-based instruction	Written test
	1.4 Identify and Interpret drawing symbols and plans		
	1.5 Perform trade mathematics and mensuration.		
	1.6 Perform 5S.		
	1.7 Identify and describe safework practices and first aid regulations.		
	1.8 Perform safe work practices and respond to emergency situations.		

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
2. Perform basic masonry works	<p>2.1 Identify and explain the uses of tools and equipment in basic masonry works.</p> <p>2.2 Identify and explain the materials used in basic masonry works</p> <p>2.3 Identify and interpret drawing symbols and plans.</p> <p>2.4 Perform trade mathematics and mensuration.</p> <p>2.6 Identify and describe safety practices and first aid regulations in basic masonry works</p> <p>2.7 Perform safe work practices and respond to emergency situations.</p> <p>2.8 Install / dismantle Scaffold.</p> <p>2.9 Establish plumbness and squareness of surface.</p> <p>2.10 Check all masonry works.</p> <p>2.11 Clean work site and maintain tools and equipment.</p>	<p>Lecture Demonstration</p> <p>On-the-Job Dual training</p> <p>Project-based instruction</p>	<p>Observation and oral questioning</p> <p>Demonstration and oral questioning</p> <p>Written test</p>

## 3.2 TRAINING DELIVERY

The delivery of training should adhere to the design of the curriculum. Delivery should be guided by the 10 basic principles of competency-based TVET.

- The training is based on curriculum developed from the competency standards;
- Learning is modular in its structure;
- Training delivery is individualized and self-paced;
- Training is based on work that must be performed;
- Training materials are directly related to the competency standards and the curriculum modules;
- Assessment is based in the collection of evidence of the performance of work to the industry required standard;
- Training is based both on and off-the-job components;
- Allows for recognition of prior learning (RPL) or current competencies;
- Training allows for multiple entry and exit; and
- Approved training programs are Nationally Accredited

The competency-based TVET system recognizes various types of delivery modes, both on and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities may be adopted when designing training programs:

- The dualized mode of training delivery is preferred and recommended. Thus programs would contain both in-school and in-industry training or fieldwork components. Details can be referred to the Dual Training System (DTS) Implementing Rules and Regulations.
- Modular/self-paced learning is a competency-based training modality wherein the trainee is allowed to progress at his own pace. The trainer just facilitates the training delivery.
- Peer teaching/mentoring is a training modality wherein fast learners are given the opportunity to assist the slow learners.
- Supervised industry training or on-the-job training is an approach in training designed to enhance the knowledge and skills of the trainee through actual experience in the workplace to acquire specific competencies prescribed in the training regulations.
- Distance learning is a formal education process in which majority of the instruction occurs when the students and instructor are not in the same place. Distance learning may employ correspondence study, audio, video or computer technologies.

### 3.3 TRAINEE ENTRY REQUIREMENTS

Trainees or students wishing to gain entry into this course should possess the following requirements:

- can communicate either oral and written
- physically and mentally fit
- with good moral character
- can perform basic mathematical computation and mensuration

### 3.4 LIST OF TOOLS, EQUIPMENT AND MATERIALS

Recommended list of tools, equipment and materials for the training of 25 trainees for Masonry NC Level I.

TOOLS		EQUIPMENT		MATERIAL	
Qty.	Description	Qty.	Description	Qty.	Description
10 pcs.	Bucket	1 unit	One bagger mixer	625 pcs.	Concrete Hollow blocks
1 pc	Mixing board	25 sets	PPE	20 bags	Cement
12 pcs.	Shovel	1 set	Automatic level (optional)	50 pcs.	Reinforcing bars (10 mm dia)
25 pcs.	Steel trowel	1 unit	Welding machine	6 m <sup>3</sup>	Sand
25 pcs.	Wooden float	2 pcs.	Portable Grinder		Water
25 pcs.	Steel tape	2 pcs.	Hammer drill	40 kls.	GI wire
6 pcs.	Mason hammer	2 pcs.	Electric drill	10 kls.	Common wire Nails (assorted sizes)
6 pcs.	Plumb bob			100 pcs.	Lumber(2" x 2" x 10')
1 set	Scaffolding			5 kls.	Concrete nails
6 pcs.	Marking gauge			10 bags	Lime
6 pcs.	Hand saw			10 bags	Fly ash
2 pcs.	Bar cutter			25 pcs.	Pencil
2 pcs.	Bar bender			5 kls.	Nylon string
4 pcs.	Steel square			6 m <sup>3</sup>	Gravel
25 pcs.	Cold chisel			5 m	Sand Screen 100mm
12 pcs.	Hacksaw			5 gals.	Concrete neutralizer
6 pcs.	Level hose			9 pcs	Plywood ½" X 4' X 8'
25 pcs.	Straight edge				
6 pcs.	Spirit level				
25 pcs.	Claw hammer				

25 pcs.	Chalk line				
25 pcs.	Steel float				
4 pcs.	Measuring box				
2 dozen	Hack saw blade				
5 kls.	Welding rod				
12 pcs.	Tri-square				
25 pcs.	Steel brush				
4 pcs.	Wheel borrow				
25 pcs.	4" Paint Brush				
25 pcs.	2" Paint Brush				
12 pcs.	Claw bar				
4 pcs.	Sledge hammer				
20 meters	Rope 1" dia.				
4 pcs.	Pulley				
1 set	Drill bits				

**NOTE:** Estimate of materials was based on an individual project of a 1m X 2m wall with 8" X 8" X 1m concrete post hence, the kind and quantity of materials will vary accordingly on the type of projects designed.

### 3.5 TRAINING FACILITIES

#### Masonry NC – I

The masonry workshop must be of concrete structure. Based on class size of 25 students/trainees the space requirements for the teaching/learning and circulation areas are as follows:

TEACHING/LEARNING AREAS	SIZE IN METERS	AREA IN SQ. METERS	TOTAL AREA IN SQ. METERS
Open plain ground			625
Lecture Room (job site/ school) including wash area			62.5
<b>Total Workshop Area</b>			<b>687.50</b>

### 3.6 TRAINERS QUALIFICATIONS FOR MASONRY NC I

#### TRAINER QUALIFICATION (TQ I)

- Must be a holder of NC II or its equivalent qualification
- Must have undergone training on Training Methodology I (TM I) or have attended any trainer training methodology course accredited by TESDA or graduate of any education course
- Must be physically and mentally fit
- Must have at least 1 year job/industry experience

*Reference: TESDA Board Resolution No. 2004 03*

### 3.7 INSTITUTIONAL ASSESSMENT

Institutional assessment is undertaken by trainees to determine their achievement of units of competency. A certificate of achievement is issued for each unit of competency.



## **SECTION 4 NATIONAL ASSESSMENT AND CERTIFICATION ARRANGEMENTS**

- 4.1. To attain the National Qualification of Masonry NC I, the candidate must demonstrate competence through project-type assessment covering all the units listed in Section 1. Successful candidates shall be awarded a National Certificate signed by the TESDA Director General.
- 4.2. The qualification of Masonry NC I maybe attained through:
  - 4.1.1 Accumulation of Certificates of Competency (COCs) in the following areas:
    - 4.1.1.1 Prepare masonry materials
    - 4.1.1.2 Perform basic masonry work

Successful candidates shall be awarded Certificates of Competency (COCs)
  - 4.1.2 Demonstration of competence through project-type assessment covering all required units of the qualification
- 4.3. Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.
- 4.4. The following are qualified to apply for assessment and certification:
  - 4.3.1 Graduates of formal, non-formal and informal including enterprise-based training programs
  - 4.3.2. Experienced Workers (wage employed or self-employed)
- 4.5. The guidelines on assessment and certification are discussed in detail in the “Procedures Manual on Assessment and Certification” and “Guidelines on the Implementation of the Philippine TVET Qualification and Certification System (PTQCS)”.

# COMPETENCY MAP

## CONSTRUCTION - CIVIL WORKS SUB-SECTOR

ANNEX A

# MASONRY NC I

<b>CORE COMPETENCIES</b>	Repairs defective concrete and masonry surfaces	Perform basic masonry works	Lay brick/ block for structures	Plaster concrete/ masonry surfaces	Install pre-cast ballusters and handrails	Prepare masonry materials	Prepare tools, painting materials and equipment	Prepare Surface for Painting
	Apply special cement finishes to concrete and masonry surfaces	Estimate Paint Requirements	Perform Painting Works	Stake-out Building	Fabricate Formworks	Install Formwork Components	Strip Formwork Components	Install Framing Works
	Perform Single Unit Plumbing Installation and Assemblies	Perform Minor Construction Works	Install architectural ceiling, wall sheats/panels/ boards and floor	Fabricate/Install Door/Window Jambes and Panels	Install stair components and/or pre-fabricated stair assembly	Install built-in and/or pre-fabricated cabinets	Perform Mixing/Tinting of Color Paints	Perform Painting Repair Work
	Perform Complex and Multi-Story Plumbing Installation and Assemblies	Perform Plumbing Repair and Maintenance Works	Conduct Pipe Leak Testing	Make Piping Joints and Connections	Install Hot and Potable Chilled Water Piping System	Prepare Pipes for Installation	Draft Plumbing Design	
<b>COMMON COMPETENCIES</b>	Prepare construction Materials and Tools	Observe Procedures, Specifications and Manuals of Instructions	Maintain Tools and Equipment	Perform Mensurations and Calculations	Perform Mensurations	Interpret Technical Drawings and Plans		
	Receive and Respond to workplace communication	Work with others	Demonstrate work	Practice basic housekeeping procedures	Participate in workplace communication	Work in environment	Practice professionalism	Practic occupational health and Safety procedures
<b>BASIC COMPETENCIES</b>	Lead workplace communication	Lead small teams	Develop and practice negotiation	Solve problems related to activities	Use mathematical method	Use relevant technologies	Utilize specialized communication skills	Develop team and individual
	Apply problem solving techniques to workplace	Collect and organize information	Plan and organize work	Promote environment protection				

## DEFINITION OF TERMS

1. Baluster Refers to a post, which supports a handrail and encloses the open sections of a stairway.
2. Competency Is the application of knowledge, skills and attitudes to perform work activities to the standard expected in the workplace.
3. Cement Is a dry powder from silica, alumina, lime, iron oxide and magnesia which hardens when mix with water.
4. Certification Refers to the process of verifying and validating competencies of a person through assessment.
5. Dowel A headless, cylindrical pin which, is sunk into corresponding holes.
6. Element Refers to the building blocks of a unit of competency. It describes in outcome terms the functions that a person who works in a particular area of work is able to perform.
7. Evidence Guide It is a guide for assessment that provides information on critical aspects of competency, underpinning knowledge, underpinning skills, resource implications, context of assessment and assessment method.
8. General Masonry Refers to the preparation and placement of concrete for structures; finishing masonry surfaces by plastering, chipping, grinding, jointing, sand blasting, terrazzo and other related processes; installation, laying, fitting and setting of masonry products, such as bricks, stones, marble tiles, mosaic panels and similar or associated materials.
9. Handrail Refers to a narrow rail to be grasped by a person for support.
10. Level Refers to the category following the level of difficulty and complexity of skills and knowledge required to do the job.
11. Lintel Refers to the horizontal member over an opening such as door or window, usually carrying the load.

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|---|---|
| 12. Mortar                                  | Refers to a mixture of cement lime and sand used for laying bricks or masonry.  |
| 13. Philippine TVET Qualification Framework | Refers to a comprehensive, nationally consistent framework for qualifications in the TVET sector. It also provides the parameter for the integration of learning and assessment in the middle skills development. |
| 14. Qualification                           | Refers to the national certificate issued by the TESDA or its accredited industry organizations in recognition that a person has achieved competencies relevant to a trade or industry.                           |
| 15. Range of Variable                       | It describes the circumstances or context in which the work is to be performed.   |
| 16. Reinforcing bar                         | Refers to the steel rods that are embedded in building materials such as concrete for reinforcement.  |
| 17. Scaffold                                | Refers to a temporary or movable platform supported on the ground or suspended, used for working at considerable heights above the ground.  |
| 18. Unit of Competency                      | Refers to a discrete aspect of work, which would normally be performed by only one person.  |

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