

TRAINING REGULATIONS



PRESS MACHINE OPERATION NC I

METALS AND ENGINEERING SECTOR

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

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TABLE OF CONTENTS
METALS AND ENGINEERING SECTOR
PRESS MACHINE OPERATION NC I

	Page No.
SECTION 1 PRESS MACHNIE OPERATION NC I QUALIFICATION	1
SECTION 2 COMPETENCY STANDARDS	2 – 39
• Basic Competencies	2 – 15
• Common Competencies	16 – 33
• Core Competencies	34 – 39
SECTION 3 TRAINING STANDARDS	40 – 47
3.1 Curriculum Design	40 – 42
3.2 Training Delivery	43
3.3 Trainee Entry Requirements	44
3.4 List of Tools, Equipment and Materials	45 - 46
3.5 Training Facilities	47
3.6 Trainers' Qualifications	47
3.7 Institutional Assessment	47
SECTION 4 NATIONAL ASSESSMENT AND CERTIFICATION ARRANGEMENTS	48
COMPETENCY MAP	49
DEFINITION OF TERMS	50
ACKNOWLEDGEMENTS	51

**TRAINING REGULATIONS FOR
PRESS MACHINE OPERATION NC I**

SECTION 1 PRESS MACHINE OPERATION NC I QUALIFICATION

The Press Machine Operation NC I Qualification consists of competencies that a person must achieve to set up and operate mechanical press to bend, notch, punch, draw, trim sheet metal to drawing specifications.

The Units of Competency comprising this qualification include the following:

Code No.	BASIC COMPETENCIES
500311101	Receive and respond to workplace communication
500311102	Work with others
500311103	Demonstrate Work Values
500311104	Practice Housekeeping Procedures

Code No.	COMMON COMPETENCIES
MEE722201	Apply safety practices
MEE722202	Interpret working drawings and sketches
MEE722203	Select and cut workshop materials
MEE722204	Perform shop computations (Basic)
MEE722205	Measure workpiece (Basic)
MEE722211	Perform preventive and corrective maintenance

Code No.	CORE COMPETENCIES
MEE722301	Perform press machine setting
MEE722302	Perform mechanical press operation

A person who has achieved this qualification is competent to be:

- Press worker

SECTION 2 COMPETENCY STANDARDS

This section gives the details of the contents of the basic, common and core units of competency required in PRESS MACHINE OPERATION 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.

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

UNIT OF COMPETENCY : WORK WITH OTHERS

UNIT CODE : 500311102

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

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Develop effective workplace relationship	1.1 <i>Duties and responsibilities</i> are done in a positive manner to promote cooperation and good relationship 1.2 Assistance is sought from <i>workgroup</i> when difficulties arise and addressed through discussions 1.3 <i>Feedback</i> 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 <i>Support is provided to team members</i> to ensure workgroup goals are met 2.2 Constructive contributions to workgroup goals and tasks are made according to <i>organizational requirements</i> 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"> 1.1. Provided support to team members to ensure goals are met 1.2. Acted on feedback from clients and colleagues 1.3. Accessed learning opportunities to extend own personal work competencies to enhance team goals and outcomes
<p>2. Underpinning Knowledge</p>	<ul style="list-style-type: none"> 2.1. The relevant legislation that affects operations, especially with regards to safety 2.2. Reasons why cooperation and good relationships are important 2.3. Knowledge of the organization's policies, plans and procedures 2.4. Understanding how to elicit and interpret feedback 2.5. Knowledge of workgroup member's responsibilities and duties 2.6. Importance of demonstrating respect and empathy in dealings with colleagues 2.7. Understanding of how to identify and prioritize personal development opportunities and options
<p>3. Underpinning Skills</p>	<ul style="list-style-type: none"> 3.1. Ability to read and understand the organization's policies and work procedures 3.2. Write simple instructions for particular routine tasks 3.3. Interpret information gained from correspondence 3.4. Communication skills to request advice, receive feedback and work with a team 3.5. Planning skills to organized work priorities and arrangement 3.6. Technology skills including the ability to select and use technology appropriate to a task 3.7. Ability to relate to people from a range of social, cultural and ethnic backgrounds.

4. Resource Implications	<p>The following resources MUST 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 500311103

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

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> 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 Work values/ethics/concepts are classified and reaffirmed in accordance with the transparent company ethical standards, policies and guidelines. 2.2 Work practices 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 Company resources 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 Work incidents/situations 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 Instructions 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 <i>Pakikisama</i> 1.18 <i>Bayanihan</i> 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

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

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.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> 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 Unnecessary items 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 identification marks based on procedure 2.5 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 Minor repairs 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 decorum are followed and complied with 5.3 Work is performed in accordance with occupational health and safety (OHS) requirements

RANGE OF VARIABLES

VARIABLE	RANGE
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 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 MUST be provided: 4.1 Facilities, materials tools and equipment necessary for the activity
5. Methods of Assessment	Competency may be assessed through: 5.1 Third party report 5.2 Interview 5.3 Demonstration with questioning
6. Context for Assessment	Competency may be assessed in the work place or in a simulated work place setting

COMMON COMPETENCIES

UNIT OF COMPETENCY: APPLY SAFETY PRACTICES

UNIT CODE: MEE722201

UNIT DESCRIPTOR: This unit covers the competencies required to apply safety practices in the workplace.

ELEMENTS	PERFORMANCE CRITERIA
	<i>Italicized terms</i> are elaborated in the Range of Variables
1. Identify hazards	1.1 Hazards are identified correctly in accordance with OHS principles. 1.2 Safety signs and symbols are identified and adhered to.
2. Use protective clothing and devices	2.1 Appropriate <i>protective clothing and devices</i> correctly selected and used in accordance with OHS requirements or industry/company policy
3. Perform safe handling of tools, equipment and materials	3.1 Safety procedures for pre-use check and operation of tools and equipment followed in accordance with industry/ company policies. 3.2 Tools, equipment and materials handled safely in accordance with OHS requirements and industry/ company policies.
4. Perform first aid	4.1 First aid treatment of injuries are carried out according to recommended procedures
5. Use fire extinguisher	5.1 Fire extinguisher selected and operated correctly according to the type of fire .

RANGE OF VARIABLES

VARIABLE	RANGE
1. Hazards	1.1 Cluttered tools and materials 1.2 Slippery floors (caused by oil, grease or any liquid) 1.3 Exposed electrical wires 1.4 Sharp edges 1.5 Machine without guards or with exposed moving parts 1.6 Uncollected chips or other wastes etc.
2. Protective clothing and devices	Protective clothing and devices may include but is not limited to: 2.1 safety glasses/goggles 2.2 safety shoes 2.3 overalls 2.4 cap
3. Injuries	Injuries may include: 3.1 burns/scalds 3.2 fractures 3.3 cuts and abrasions 3.4 poisoning 3.5 foreign bodies in the eye 3.6 concussion 3.7 shock
4. Type of fires	Fires involving or caused by: 4.1 common combustibles (wood, cloth, paper, rubber and plastic) 4.2 flammable liquids (gasoline, oil, solvents, paints, etc.) 4.3 energized electrical equipment (wiring, fuse boxes, circuit breakers, appliances, etc.) 4.4 combustible metals (magnesium, sodium, etc.)

EVIDENCE GUIDE

<p>1. Critical aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 identified hazardous area 1.2 used protective clothing and devices 1.3 handled tools, equipment and materials properly 1.4 performed first aid 1.5 used fire extinguisher
<p>2. Underpinning knowledge and attitude</p>	<ul style="list-style-type: none"> 2.1 Shop safety signs, symbols and alarms 2.2 Safety precautionary measures 2.3 Housekeeping 2.4 Machine tools 2.5 First aid 2.6 Engineering materials 2.7 Fire extinguishers
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> 3.1 Operating machine tools 3.2 Handling tools and materials 3.3 Communicating with superiors and co-workers 3.4 Interpreting instructions
<p>4. Resource implications</p>	<p>The following resources MUST be provided</p> <ul style="list-style-type: none"> 4.1 Tools, equipment and facilities appropriate to processes or activity 4.2 Materials relevant to the proposed activity
<p>5. Method of assessment</p>	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> 5.1 Demonstration 5.2 Written or oral short answer questions 5.3 Practical exercises
<p>6. Context for assessment</p>	<p>Competency may be assessed in the workplace or in simulated workplace environment.</p>

UNIT OF COMPETENCY: INTERPRET WORKING DRAWINGS AND SKETCHES

UNIT CODE: MEE722202

UNIT DESCRIPTOR: This unit covers the competencies required to read and interpret drawings and sketches.

ELEMENTS	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Interpret technical drawing	1.1 Components, assemblies or objects recognized as required. 1.2 Dimensions identified as appropriate. 1.3 Instructions identified and followed as required. 1.4 Material requirements identified as required. 1.5 Symbols recognized as appropriate in the drawing . 1.6 Tolerance , limits and fits identified in the drawing.
2. Prepare freehand sketch of parts	2.1 Sketch drawn correctly and appropriately. 2.2 Sketch depicted objects or part appropriately. 2.3 Dimensions indicated in sketch are clear and correct. 2.4 Instructions included in sketch are clear and correct. 2.5 Base line or datum points indicated as required.
3. Interpret details from freehand sketch	3.1 Components, assemblies or objects recognized as required. 3.2 Dimensions identified as appropriate. 3.3 Instructions identified and followed as required. 3.4 Material requirements identified as required. 3.5 Symbols recognized as appropriate in the drawing.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Drawing	1.1 Drawing technique include 1.1.1 Perspective 1.1.2 Exploded view 1.1.3 Hidden view technique 1.2 Projections 1.2.1 First angle projections 1.2.2 Third angle projections
2. Tolerance	2.1 General tolerance 2.2 Angular tolerance 2.3 Geometric tolerance

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Interpreted technical drawing 1.2 Prepared sketches 1.3 Interpreted sketches.
2. Underpinning knowledge	2.1 Alphabet of lines 2.2 Projections 2.3 Drawing symbols 2.4 Dimensioning techniques 2.5 Tolerance, limits and fits 2.6 Engineering materials 2.7 Drawing tools and supplies
3. Underpinning skills	3.1 Handling tools and drawing instruments 3.2 Using measuring instruments
4. Resource implications	The following resources MUST be provided 4.1 Drafting room/facilities and drafting instruments and supplies appropriate to the activity 4.2 Measuring tools 4.3 Drawings, sketches or blueprint 4.4 Specimen parts/components
5. Method of assessment	Competency may be assessed through: 5.1 direct observation 5.2 written or oral short answer questions 5.3 demonstration 5.4 project/work sample 5.5 portfolio
6. Context for assessment	Competency may be assessed in the workplace or in simulated workplace environment.

UNIT OF COMPETENCY: SELECT/ CUT WORKSHOP MATERIALS

UNIT CODE: MEE722203

UNIT DESCRIPTOR: This unit covers the skills and knowledge required to select and cut workshop materials.

ELEMENTS	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Determine job requirement	1.1 Plans/ drawings are interpreted to produce component to specification 1.2 Sequence of operation is determined to produce component to specification
2. Select and measure materials	2.1 Materials are selected according to the requirement of the operation 2.2 Materials are measured to required level of accuracy using measuring tools 2.3 Measuring tools are used according to manufacturers specification
3. Cut materials	3.1 Materials are cut according to plans/drawing instruction 3.2 Cutting tools/equipment are used based on manufacturers specification, appropriate techniques or the safety procedure

RANGE OF VARIABLES

VARIABLE	RANGE
1. Plan/drawings	1.1 Dimensions 1.2 Tolerance
2. Materials	2.1 Ferrous 2.2 Non-ferrous
3. Measuring tools	3.1 Steel rule 3.2 Pull-push rule
4. Cutting tools/equipment	4.1 Hacksaw 4.2 Power hacksaw
5. Safety procedure	Safety involves the handling of 5.1 Equipment 5.2 Tools 5.3 Materials

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Interpreted plans/drawings 1.2 Selected natural according to the requirement 1.3 Performed cutting operation 1.4 Cutting tools/equipment used safely
2. Underpinning knowledge and attitude	2.1 Shop safety practices 2.1.1 Safe working habits 2.1.2 Safe handling of tools, equipment and materials 2.2 Blueprint reading 2.2.1 Standard drawing scales, symbols and abbreviations 2.2.2 Assembly and details of drawing 2.2.3 Dimensions 2.3 Measurement 2.3.1 Linear measuring tools 2.4 Materials and related science 2.4.1 Classification and mechanical properties of engineering materials
3. Underpinning skills	3.1 Selecting materials 3.2 Using measuring tools 3.3 Operating power hacksaw
4. Resource implications	The following resources MUST be provided 4.1 Tools, equipment and facilities appropriate processes of an activity 4.2 Materials relevant to the proposal activity 4.3 Drawings/plans
5. Method Assessment	Competency may be assessed through: 5.1 Direct observation 5.2 Oral short answer question 5.3 Practical exercises
6. Context for assessment	Competency may be assessed in the workplace or in simulated work environment

UNIT OF COMPETENCY: PERFORM SHOP COMPUTATIONS (BASIC)

UNIT CODE: MEE722204

UNIT DESCRIPTOR: This unit covers the competencies required to perform basic calculations using the four fundamental operation.

ELEMENTS	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Perform four fundamental operations.	1.1 Simple calculations performed using four fundamental operations . 1.2 Simple calculations performed involving fractions and mixed numbers using four fundamental operations
2. Perform basic calculations involving fractions and decimals	2.1 Simple calculations are performed involving fractions and decimals using the four fundamental operations. 2.2 Decimal are converted into fraction (and vice versa) accurately,
3. Perform basic calculations involving percentages.	3.1 Simple calculations are performed to obtain percentages from information expressed in either fractional or decimal format
4. Perform basic calculation involving ration and proportion	4.1 Simple calculations are performed involving ratios and proportion using whole numbers, fractions and decimal fractions.
5. Perform calculations on algebraic expressions	5.1 Simple calculations are performed on algebraic expressions using the four fundamental operations. 5.2 Simple transposition of formulae is carried out to isolate the variable required, involving the four fundamental operations.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Four fundamental operations	1.1 Addition 1.2 Subtraction 1.3 Multiplication 1.4 Division
2. Algebraic expressions	Calculation using formula for determining 2.1 tap drill size 2.2 feed 2.3 speed

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate performed calculations: 1.1 using four fundamental operations 1.2 involving fractions and mixed numbers 1.3 involving fractions and decimals 1.4 involving percentages 1.5 involving ratio and proportion 1.6 on algebraic expressions 1.7 of simple formulae
2. Underpinning knowledge and attitude	English and metric system of measurements
3. Underpinning skills	Performing calculations using pen and paper or on a calculator.
4. Resource implications	The following resources MUST be provided: 4.1 Tools, equipment and facilities appropriate to processes or activity 4.2 Materials relevant to the proposed activity
5. Method of assessment	Competency may be assessed through: 5.1 written or oral short answer questions 5.2 practical exercises
6. Context for assessment	Competency may be assessed in the workplace or in simulated workplace environment.

UNIT OF COMPETENCY: MEASURE WORKPIECE (BASIC)

UNIT CODE: MEE722205

UNIT DESCRIPTOR: This unit covers the competencies required to measure workpieces using measuring instruments such as steel rules, vernier calipers , micrometers, etc....

ELEMENTS	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Select and use measuring tools	1.1 Measuring tools are selected and used according to the level of accuracy required. 1.2 Measurements taken are accurate to the finest graduation of the selected measuring instrument. 1.3 Measuring technique used is correct and appropriate to the device used.
2. Clean and store measuring tools	2.1 Care and storage of devices undertaken to manufacturer's specifications or standard operating procedures.

RANGE OF VARIABLES

VARIABLE	RANGE
1. Measuring tools	Measuring tools include: 1.1 Steel tape 1.2 Steel rule 1.3 Straight edge 1.4 Combination square 1.5 Steel square 1.6 Divider or trammel 1.7 Caliper 1.8 Protractor 1.9 Vernier caliper 1.10 Micrometer
2. Measurements	2.1 length 2.2 diameter 2.3 depth 2.4 flatness 2.5 straightness 2.6 squareness

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Selected and used measuring instruments 1.2 Cleaned and stored measuring instruments
2. Underpinning knowledge	2.1 Types, purposes and accuracy of measuring instruments 2.2 Capability of measuring instruments 2.3 Part dimensions and tolerances 2.4 Techniques for measuring dimensions 2.5 Care and storage procedure of measuring tools
3. Underpinning skills	3.1 Safe handling of measuring tools and materials
4. Resource implications	The following resources MUST be provided 4.1 Tools, equipment and facilities appropriate to the activity 4.2 Specimen component or part to the proposed activity
5. Method of assessment	Competency may be assessed through: 5.1 direct observation 5.2 demonstration 5.3 written or oral short answer questions 5.4 portfolio
6. Context for assessment	Competency may be assessed in the workplace or in simulated workplace environment.

UNIT OF COMPETENCY PERFORM PREVENTIVE AND CORRECTIVE MAINTENANCE

UNIT CODE: MEE722211

UNIT DESCRIPTOR: This unit covers the knowledge and skills required in performing preventive and corrective maintenance such as inspection and repair of hand tools, cleaning and lubrication of machine parts and changing drive pulley and belts.

ELEMENTS	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Perform inspection of machine	1.1 Machine <i>inspected</i> according to worksite procedures. 1.2 Status/Report recorded on proforma or reported orally according to worksite procedure.
2. Perform cleaning and lubricating of machine	2.1 <i>Machines</i> lubricated as per manufacturer's recommendation using appropriate <i>tools and materials</i> 2.2 Fluids and lubricants replaced and/or topped up according to prescribed schedule.
3. Perform minor machine repair and adjustments	3.1 Minor machine repairs performed according to manufacturer's instruction or worksite procedures. 3.2 Machine moving parts adjusted to manufacturer's specifications.
4. Maintain hand tools	4.1 Tool cutting ground to recommended specifications 4.2 Hand tools lubricated and stored according to prescribed procedure

RANGE OF VARIABLES

VARIABLES	RANGE
1. Inspected	Inspected machine parts include: 1.1 V-belt 1.2 Bearing 1.3 Gears 1.4 Clutch 1.5 Drive pulley
2. Machines	Machine include but not limited to: 2.1 Lathe machine 2.2 Milling machine 2.3 Grinding machine 2.4 Mechanical press machnie
3. Tools and materials	Tools and materials used include: 3.1 Lubricants 3.2 Oil can 3.3 Grease gun 3.4 Oil 3.5 Coolant or compound

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that that the candidate: 1.1 performed inspection of machine 1.2 performed cleaning and lubricating of machine 1.3 performed minor machine repairs and adjustments
2. Underpinning knowledge	2.1 Proper cleaning and oiling 2.2 Kinds of oil 2.3 Parts and function of machine tools 2.4 Cutting oil, coolant or compound 2.5 Pulleys and belts 2.6 Location of main switches of the machine 2.7 Handling and storage of tools 2.8 Checklist of safe working conditions 2.9 Procedures in cleaning and disposal of waste materials
3. Underpinning skills	3.1 Inspecting and repairing hand tools 3.2 Inspecting and changing drive pulleys and belts 3.3 Replacing and adjusting machine parts 3.4 Distinguishing old and new coolant 3.5 Distinguishing odor of polluted coolant 3.6 Selecting coolant, cutting oil or compounds 3.7 Changing coolant 3.8 Inspecting work area for safe working environment 3.9 Cleaning work area 3.10 Disposing metal scraps, chips and waste materials.
4. Resource Implications	The following resources MUST be provided: 4.1 Tools, equipment and facilities appropriate to processes or activity 4.2 Materials relevant to the proposed activity
5. Method of Assessment	Competency may be assessed through: 5.1 direct observation of activities 5.2 oral or written questioning
6. Context for Assessment	Competency may be assessed in the workplace or in simulated workplace environment.

CORE COMPETENCIES

UNIT OF COMPETENCY: PERFORM PRESS MACHINE SETTING

UNIT CODE: MEE722301

UNIT DESCRIPTOR: This unit covers the skills, knowledge and attitudes required to set press machine, conduct trial run, check the components for conformance to specification and replace worn/damaged tooling/dies. The unit applies to a range of press operations including blanking, cutting-off, piercing/punching, trimming, bending and drawing.

ELEMENT	PERFORMANCE CRITERIA
	<i>Italicized terms</i> are elaborated in the Range of Variables
1. Set up die and machine	1.1 Instructions are interpreted correctly and understood. 1.2 Die and machine is set in accordance with standard operating procedures 1.3 Machine accessories/attachments are selected and installed to meet requirements of the operation 1.4 Machine is adjusted to meet specifications and operational requirements
2. Conduct trial run	2.1 Trial run is conducted in accordance with prescribed operating procedures 2.2 First-off samples are measured for compliance with specifications, and adjustments are made to ensure compliance with specification 2.3 Safety practices are followed in accordance with OHS requirements
3. Replace worn/damaged tooling or dies	3.1 Abnormal machine operation is noted and reported to concerned personnel 3.2 Worn or damaged tooling is identified and reported as required 3.3 Safety practices are followed in accordance with OHS requirements

RANGE OF VARIABLES

VARIABLE		RANGE	
1.	Instructions	Instructions include but not limited to: 1.1 drawings 1.2 job orders 1.3 job sheets 1.4 equivalent instructions	
2.	Operation	Press machine operation include but not limited to: 2.1 blanking 2.2 cutting –off 2.3 piercing/punching 2.4 trimming 2.5 bending 2.6 drawing	
3.	Adjustments	3.1 3.2 3.3	Adjustments are made in ram shut height feed/guide mechanism setting die clearance/alignment

EVIDENCE GUIDE

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Set up die and machine 1.2 conducted trial run 1.3 replaced worn/damaged tooling or die
2. Underpinning knowledge	2.1 Types and characteristics of press machines and accessories 2.2 Tools and equipment used in setting the machine 2.3 Die and press machine setting techniques and procedures 2.4 Press machine operations 2.4 Feed stocks and their characteristics 2.5 Techniques and tools used in measuring samples 2.6 Abnormal condition of die, machine or material 2.7 Signs of tool wear 2.8 Safety practices and personal protective equipment 2.9 Hazards and control measures associated with operating machines
3. Underpinning skills	3.1 Interpreting drawings, job sheets, standard operating procedures, specifications, safe working procedures and other relevant references 3.2 Following oral instructions 3.3 Identifying worn/damaged tooling or dies 3.4 Using hand tools 3.5 Using measuring instruments
4. Resource implication	The following resources MUST be provided: 4.1 Tools, equipment and materials relevant to the activity 4.2 Drawings, job sheets or instructions 4.3 Personal Protective Equipment
5. Method of assessment	Competency must be assessed through: 5.1 Observation with questioning 5.2 Demonstration with questioning 5.3 Portfolio 5.4 Written test
6. Context of assessment	Competency may be assessed at work or in a simulated workplace setting.

UNIT OF COMPETENCY: PERFORM BASIC MECHANICAL PRESS OPERATIONS

UNIT CODE: MEE722302

UNIT DESCRIPTOR: This unit covers the skills, knowledge and attitudes required to conduct pre-start checks, select feed stock materials, operate and monitor basic press operations. The unit applies to a range of press operations including blanking, cutting-off, piercing/punching, trimming, bending and drawing.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables
1. Secure job instructions	1.1 Instructions are correctly interpreted and understood 1.2 Task requirements are understood including machine selection and settings.
2. Conduct pre-start checks	2.1 Pre-start checks are undertaken to standard operating procedure 2.2 Safety procedures are observed and all safety equipment is checked for correct operation
3. Select feed stock materials	3.1 Materials are selected in accordance with job specifications, fitness for purpose and work order instructions. 3.2 Materials stocks are checked to ensure availability of sufficient quantities of materials to meet job requirements.
4. Perform press operations	4.1 Machine is started up safely and correctly in accordance with standard operating procedures. 4.2 Machine is operated in accordance with job instructions or standard operating procedures. 4.3 Feed stock are loaded and maintained consistent with production requirements. 4.4 Machine output is unloaded safely to standard operating procedures. 4.5 Machine output is handled and stored in a manner not likely to cause damage. 4.6 Production data is recorded to standard operating procedures.

5. Monitor machine operation	<p>5.1 Machine operation is monitored for safe and correct operation in accordance with standard operating procedures.</p> <p>5.2 Deviations and faults are identified and reported in accordance with standard operating procedures.</p> <p>5.3 Safety procedures and work practices are followed in accordance with Occupational Health and Safety (OHS) requirements.</p> <p>5.4 Emergency procedures are understood and followed in accordance with standard operating procedures</p>
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RANGE OF VARIABLES

VARIABLE	RANGE
1. Instruction	<p>Instructions include but not limited to:</p> <p>1.1 drawings</p> <p>1.2 job instructions</p> <p>1.3 specifications</p> <p>1.4 equivalent instructions</p>
2. Operation	<p>Mechanical press machine operation include but not limited to:</p> <p>2.1 blanking</p> <p>2.2 cutting –off</p> <p>2.3 piercing/punching</p> <p>2.4 trimming</p> <p>2.5 bending</p> <p>2.6 drawing</p>

EVIDENCE GUIDE

<p>1. Critical aspects of competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Secured job instructions 1.2 conducted pre-start checks 1.3 selected feed stock materials 1.4 performed press operations 1.5 monitor machine operation
<p>2. Underpinning knowledge</p>	<ul style="list-style-type: none"> 2.1 Types and characteristics of press machines, accessories and attachments 2.2 Machine setting procedures 2.3 Machine operating procedures 2.4 Feed stocks and their characteristics 2.5 Techniques and tools used in measuring process output 2.6 Machine tooling 2.7 Signs of tool wear 2.8 Safety practices and personal protective equipment 2.9 Hazards and control measures associated with operating machines 2.10 Emergency procedures 2.11 First aid
<p>3. Underpinning skills</p>	<ul style="list-style-type: none"> 3.1 Interpreting drawings, job sheets, standard operating procedures, specifications, safe working procedures and other relevant references 3.2 Following oral instructions 3.3 Identifying worn/damaged tooling or dies 3.4 Using hand tools 3.5 Measuring workpieces 3.6 Applying first aid measures
<p>4. Resource implication</p>	<p>The following resources MUST be provided:</p> <ul style="list-style-type: none"> 4.1 Tools, equipment and materials relevant to the activity 4.2 Drawings, job sheets or instructions 4.3 Personal Protective Equipment
<p>5. Method of assessment</p>	<p>Competency must be assessed through:</p> <ul style="list-style-type: none"> 5.1 Observation with questioning 5.2 Demonstration with questioning 5.3 Portfolio 5.4 Written test
<p>6. Context of assessment</p>	<p>Competency may be assessed at work or in a simulated workplace.</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 PRESS MACHINE OPERATION NC I.

3.1 CURRICULUM DESIGN

Course Title: **PRESS MACHINE OPERATION**

NC Level: **NC I**

Nominal Training Duration : 294 Hours

This qualification is designed to develop knowledge, desirable attitudes and skills in Press Machine Operation NC I.

It covers the competencies required to perform mechanical press pre-production activities and perform basic mechanical press operations

To obtain this, all units of competency prescribed for this qualification must be achieved.

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 & messages 1.3 Perform work duties following written notices	<ul style="list-style-type: none"> • Group discussion • Interaction 	<ul style="list-style-type: none"> • Interviews/questioning • Observation
2. Work with others	2.1 Develop effective workplace relationship 2.2 Contribute to work group activities	<ul style="list-style-type: none"> • Group discussion • Interaction 	<ul style="list-style-type: none"> • Interviews/questioning • Demonstration • Observation
3. Demonstrate work values	3.1 Define the purpose of work 3.2 Apply work values/ethics 3.3 Deal with ethical problems 3.4 Maintain integrity of conduct in the workplace	<ul style="list-style-type: none"> • Group discussion • Interaction 	<ul style="list-style-type: none"> • Demonstration • Observation • Interviews/questioning

4. Practice housekeeping procedures	4.1 Sort and remove unnecessary items 4.2 Arrange items 4.3 Maintain work areas, tools and equipment 4.4 Follow standardize work process and procedures 4.5 Perform work spontaneously	<ul style="list-style-type: none"> • Group discussion • Interaction 	<ul style="list-style-type: none"> • Demonstration • Observation • Interviews/ questioning
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COMMON COMPETENCIES

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
1. Apply safety practices	1.1 Identify hazards 1.2 Use protective clothing and devices 1.3 Perform safe handling of tools, equipment and materials 1.4 Perform first aid 1.5 Use fire extinguisher	<ul style="list-style-type: none"> • Lecture • Group discussion • Interaction • Role playing / Simulation 	<ul style="list-style-type: none"> • Observation • Demonstration • Interview / Questioning
2. Interpret working drawing and sketches	2.1 Interpret technical drawing 2.2 Prepare freehand sketch of parts 2.3 Interpret details from freehand sketch	<ul style="list-style-type: none"> • Lecture • Group discussion • Interaction 	<ul style="list-style-type: none"> • Observation • Interview / Questioning
3. Select / cut workshop materials	3.1 Determine requirements 3.2 Select and measure materials 3.3 Cut materials	<ul style="list-style-type: none"> • Lecture • Demonstration • Practical exercise 	<ul style="list-style-type: none"> • Demonstration • Observation • Performance test • Interview / Questioning
4. Perform shop computations (Basic)	4.1 Perform four fundamental operations 4.2 Perform basic calculations involving fractions and decimals 4.3 Perform basic calculations involving percentages 4.4 Perform basic calculations involving ration and proportion 4.5 Perform calculations on algebraic expressions	<ul style="list-style-type: none"> • Lecture • Demonstration • Practical exercise 	<ul style="list-style-type: none"> • Demonstration • Observation • Performance test • Interview / Questioning

5. Measure workpiece (Basic)	5.1 Select and use measuring tools 5.2 Clean and store measuring tools	<ul style="list-style-type: none"> • Lecture • Demonstration • Practical 	<ul style="list-style-type: none"> • Demonstration • Observation • Performance test • Interview / Questioning
6. Perform preventive and corrective maintenance	6.1 Perform inspection of machine 6.2 Perform cleaning and lubricating of machine 6.3 Perform minor machine repair and adjustments 6.4 Maintain hand tools	<ul style="list-style-type: none"> • Lecture • Demonstration • Group discussion • Practical exercise 	<ul style="list-style-type: none"> • Demonstration • Observation • Performance test • Interview / Questioning

CORE COMPETENCIES

Unit of Competency	Learning Outcomes	Methodology	Assessment Approach
1. Perform mechanical press pre-production activities	<ul style="list-style-type: none"> • Set machine • Conduct trial run • Replace worn/ damaged tooling/ dies 	<ul style="list-style-type: none"> • Demonstration • Discussion 	<ul style="list-style-type: none"> • Direct Observation • Written or oral • Demonstration
2. Perform mechanical press operations (Basic)	<ul style="list-style-type: none"> • Prepare machine and materials • Perform press operations • Monitor machine operation 	<ul style="list-style-type: none"> • Demonstration • Discussion 	<ul style="list-style-type: none"> • Direct Observation • Written or oral • Demonstration

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 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 component;
- Allows for the 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 of 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 facilitates the training delivery
- Peer teaching / mentoring is training modality wherein fast learners are given the opportunity to assist the slow learners.
- Supervised industry training or on-the-hob 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 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, or audio, video or computer technologies.

3.3 TRAINEE ENTRY REQUIREMENTS

This section specifies the qualifications of trainees and educational experience. Other requirements like health and physical requirements are also stated. Passing entry written examinations may also be indicated if necessary.

- Must be high school graduate
- With good moral character
- Ability to communicate
- Physically and mentally fit

3.4 LIST OF TOOLS, EQUIPMENT AND MATERIALS PRESS MACHINE OPERATION NC I

Recommended list of tools, equipment and materials for the training of 25 trainees for PRESS MACHNIE OPERATION NC I

TOOLS					
QTY		QTY		QTY	
2 sets	• Box wrench	2 sets	• Open end wrench 4 mm to 20 mm	2 sets	• Allen wrench 4 to 10 mm
2 sets	• Adjustable wrench	2 set	• Flat screw driver length 140 & 160	2 sets	• Philips screw driver
2 sets	• Vice grip length 175 mm		•		•
Measuring Tools:					
25 pcs	• Steel rule	15 pcs.	• Vernier caliper - Inside - outside	15 pcs.	• Micrometer - inside - outside
10 pcs.	• Feeler gauges		•		•

Safety Device:					
1 box	• First –Aid kit	25 pcs	• Safety goggle	25 pcs	• Safety shield/mask
4 cyl	• Fire extinguisher	25 pcs	• Safety shoes	25 pcs	• Gloves

EQUIPMENT		DIES	
QTY			
1 unit	• Mechanical press machine with accessories	• Blanking	• Extruding
1 unit	• Compressor with accessories	• Cut-off	• Compound
1 unit	• Hoists	• Piercing	• Progressive
1 unit	• Jacks	• Trimming	• Forming
		• Bending	
		• Drawing	

MATERIALS					
	• Strip material		• Lubricating oil		
Housekeeping materials:					
20 pcs	▪ Brooms	10 k	▪ Clean rags	5 pcs	▪ Dustpan
10 pcs	▪ Scrapers	10 pcs	▪ Mops	2 pcs.	▪ Trash can
10 gal	▪ Kerosene oil	2 bars	▪ Soap		
Training Materials:					
	▪ Reference books		▪ Catalogs ▪ Brochures / LE s		▪ CD s / Video tape

3.5 TRAINING FACILITIES

PRESS MACHINE OPERATION NC I

The 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:

SPACE REQUIREMENT	SIZE IN METERS	AREA IN SQ. METERS	TOTAL AREA IN SQ. METERS
• Building (permanent)	10 M X 30 M		300 Sq. M
▪ Trainee working space	2 M X 2 M	4 Sq.M / trainee	100 sq. M.
▪ Lecture Room	8 M X 10 M	80 Sq. M.	80 Sq. M
▪ Learning Resource Center	4 M X 8 M.	32 Sq. M	32 Sq. M
▪ Facilities/ Equipment/ Circulation Area			88 Sq. M.

3.6 TRAINER'S QUALIFICATIONS FOR METALS AND ENGINEERING SECTOR

PRESS MACHINE OPERATION NC I

TRAINER QUALIFICATION (TQ I)

- Must be a holder of PRESS MACHINE OPERATION NC I or its equivalent
- Must have undergone training on Training Methodology I (TM I)
- Must be computer literate
- Must be physically and mentally fit
- *Must have at least 2 years job/industry experience
- Must be a civil service eligible (for government position or appropriate professional license issued by the Professional Regulatory Commission)

* **Optional. Only when required by the hiring institution.**

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 Press Machine Operation NC I, the candidate must demonstrate competence in all the units of competency listed in Section 1. Successful candidates shall be awarded a National Certificate signed by the TESDA Director General.
- 4.2 Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.
- 4.3 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)
- 4.4 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 (PTOQS)".

COMPETENCY MAP
PRESS MACHINE OPERATION NC I

BASIC COMPETENCIES	Receive and respond to workplace communication	Participate in workplace communication	Lead in workplace communication	Solve problems related to workplace activities	Utilize specialist communication skills	Collect, analyze and organize information
	Work with others	Work in team environment	Lead small teams	Use mathematical concepts and techniques	Develop team and individual	Plan and organize work
	Demonstrate work values	Practice career professionalism	Develop and practice negotiation skills	Use relevant technologies	Apply problem-solving techniques in the workplace	Promote environmental protection
	Practice housekeeping procedures	Practice occupational health and safety procedures				
COMMON COMPETENCIES	Apply safety practices	Select and cut workshop materials	Measure workpiece (Basic)	Perform preventive and corrective maintenance	Measure workpiece using gages and comparators	
	Interpret working drawings and sketches	Perform shop computations (Basic)	Perform routine housekeeping	Perform shop computations (Intermediate)	Measure workpiece using angular measuring instruments	Perform shop computations (Advanced)
CORE COMPETENCIES	Perform mechanical press pre-production activities)	Perform mechanical press operation)				

Definition of Terms

1. Press A machine by which pressure is applied to a workpiece to cut, pierce, bend or shape it
2. Die A tool used to impart shapes to or to form impressions on sheet metal
3. Blanking A press operation wherein metal sheets are cut into shapes by striking with a punch
4. Bending A press operation that involves forming a metal part into a curved or angular shape, or the stretching or flanging of it along a curved path
5. Drawing A press operation that forces plastic deformation of metal in a die to form recessed parts or cuplike shapes
6. Drawing die A die that forms sheet metal into cuplike, wrinkle-free shapes
7. Feed stock The raw material furnished to a press machine to form or shape the metal
8. Trimming Removing excess materials from drawn or blanked part
9. Punching A piece removed from a sheet metal or other material by a punch press
10. Ram A plunger, weight or other guided structure for exerting pressure by impact

ACKNOWLEDGEMENTS

The Technical Education and Skills Development Authority (TESDA) wishes to extend Thanks and appreciation to the many representatives of business, industry, academe and government agencies who donated their time and expertise to the development and validation of this Training Regulation.

We particularly thank the following members of the Expert Committee and the respondents of the National Validation that was conducted for **PRESS OPERATION NC I**

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