



# Competency Standard (CS)

## Wood Working Machine Operation

Level-2

Furniture Sector

Competency Standard Code: CS-FUR-WWMO-L2-EN-V1



**National Skills Development Authority**  
**Chief Advisor's Office**  
**Government of the People's Republic of Bangladesh**



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This Competency Standard for **Wood Working Machine Operation** is a document for the development of curricula, teaching and learning materials, and assessment tools. It also serves as the document for providing training consistent with the requirements of industry in order to meet the qualification of individuals who graduated through the established standard via competency-based assessment for a relevant job.

This document has been developed by NSDA in association with **Furniture Sector**, industry representatives, academia, related specialist, trainer and related employee.

Public and private institutions may use the information contained in this standard for activities benefitting Bangladesh.

## Introduction

The NSDA aims to enhance an individual's employability by certifying completeness with skills. NSDA works to expand the skilling capacity of identified public and private training providers qualitatively and quantitatively. It also aims to establish and operationalize a responsive skills ecosystem and delivery mechanism through a combination of well-defined set of mechanisms and necessary technical supports.

Key priority economic growth sectors identified by the government have been targeted by NSDA to improve current job skills along with existing workforce to ensure required skills to industry standards. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training program. "**Wood Working Machine Operation**" is selected as one of the priority occupations of **Furniture** Sector. This standard is developed to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

Generally, a competency standard informs curriculum, learning materials, assessment and certification of trainees enrolled in Skills training. Trainees who successfully pass the assessment will receive a qualification in the National Skills Qualification Framework (BNQF) under Bangladesh National Qualification Framework and will be listed on the NSDA's online portal.

This competency standard is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements. A series of stakeholder consultations, workshops were held to develop this document.

The document also details the format, sequencing, wording and layout of the Competency Standard for an occupation which is comprised of Units of Competence and its corresponding Elements.

## Overview

A **Competency Standard** is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of representative from NSDA, Key Institutions, ISC, and industry experts to identify the competencies required of an occupation in **Furniture Sector**.

Competency standards describe the skills, knowledge and attitude needed to perform effectively in the workplace. CS acknowledge that people can achieve technical and vocational competency in many ways by emphasizing what the learner can do, not how or where they learned to do it.

With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- nominal duration
- unit code
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guide

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- a chart with an overview of all Units of Competency for the relevant occupation, trade or job including the Unit Codes and the Unit of Competency titles and corresponding Elements
- the Competency Standard that includes the Unit of Competency, Unit Descriptor, Elements and Performance Criteria, Range of Variables, Curricular Content Guide and Assessment Evidence Guide.

## Competency Standards for National Skill Certificate – 2 in Wood Working Machine Operation in Furniture Sector

### Level Descriptors of Skills Sector, BNQF Level 1-6

Level & Job classification	Knowledge Domain	Skills Domain	Responsibility Domain
6-Mid-Level Manager/ Sub Assistant Engineer	Comprehensive actual and theoretical knowledge within a specific work or study area with an awareness of the validity and limits of that knowledge, able to analyze, compare, relate and evaluate.	Specialised and wider range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems. Communicate professional issues and solutions to the team and to external partners/users.	Work under broad guidance and self-motivation to execute strategic and operational plan/s. Lead lower-level management. Diagnose and resolve problems within and among work groups.
5-Supervisor	Broad knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to scrutinize and break information into parts by identifying motives or causes.	Broad range of cognitive and practical skills required to generate solutions to specific problems in one or more work or study areas. Communicate practice-related problems and possible solutions to external partners.	Work under guidance of management and self-direction to resolve specific issues. Lead and take responsibility for the work and actions of group/team members. Bridge between management.
4-Highly Skilled Worker	Broader knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to solve problems to new situations by comparing and applying acquired knowledge.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying the full range of methods, tools, materials and information. Communicate using technical terminology and IT technology with partners and users as per workplace requirements.	Work under minimal supervision in specific contexts in response to workplace requirements. Resolve technical issues in response to workplace requirements and lead/guide a team/ group.
3-Skilled Worker	Moderately broad knowledge in a specific work or study area, able to perceive ideas and abstract from drawing and design according to workplace requirements.	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools. Communicate with his team and limited external partners upholding the values, nature and culture of the workplace	Work or study under supervision with considerable autonomy. Participate in teams and responsible for group coordination.
2-Semi Skilled Worker	Basic understanding of underpinning knowledge in a specific work or study area, able to interpret and apply common occupational terms and instructions.	Skills required to carry out simple tasks, communicate with his team in the workplace presenting and discussing results of his work with required clarity.	Work or study under supervision in a structured context with limited scope of manipulation.
1 –Basic Skilled Worker	Elementary understanding of ability to interpret the underpinning knowledge in a specific study area, able to interpret common occupational terms and instructions.	Specific Basic skills required to carry out simple tasks. Interpret occupational terms and present the results of own work within guided work environment/ under supervision.	Work under direct supervision in a structured context with limited range of responsibilities.

## List of Abbreviations

CS	-	Competency Standard
ISC	-	Industry Skills Council
FURISC	-	Furniture Industry Skills Councils
NSDA	-	National Skills Development Authority
BNQF	-	Bangladesh National Qualification Framework
OSH	-	Occupational Safety and Health
PPE	-	Personal Protective Equipment
SCVC	-	Standards and Curriculum Validation Committee
STP	-	Skills Training Provider
SOP	-	Standard Operating Procedure
UoC	-	Unit of Competency
WWMO	-	Wood Working Machine Operation
4 iR	-	4 <sup>th</sup> Industrial Revolution





Approved by  
37<sup>th</sup> Authority meeting of NSDA  
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**Competency Standards for National Skill Certificate – 2 in  
Wood Working Machine Operation  
Course Structure**

SL.	Unit Code and Title	UoC Level	Nominal Hours
<b>Generic Units of Competencies</b>			<b>30</b>
1.	GU-01-L1-V1	Perform Computations Using Basic Mathematical Concepts	1 15
2.	GU-02-L2-V1	Apply Occupational Safety and Health (OSH) Procedure in the Workplace	1 15
<b>Sector Specific Units of Competencies</b>			<b>60</b>
3.	SU-FUR-01-L1-V1	Prepare wood for work	2 20
4.	SU-FUR-02-L1-V1	Use Measuring Instruments	2 20
5.	SU-FUR-03-L1-V1	Interpret Technical Drawing	2 20
<b>Occupation Specific Units of Competencies</b>			<b>270</b>
6.	OU-FUR- WWMO -01-L1-V1	Use Hand Tools and Portable Power Tools	2 20
7.	OU-FUR-WWMO-02-L2-V1	Perform Planer Machine Operation	2 50
8.	OU-FUR-WWMO-03-L2-V1	Operate Spindle Molder Machine	2 50
9.	OU-FUR-WWMO-04-L2-V1	Operate Circular Saw	2 40
10.	OU-FUR-WWMO-05-L2-V1	Perform Mortise Machine Operation	2 60
11.	OU-FUR-WWMO-06-L2-V1	Operate Jigsaw Machine	2 50
<b>Total Nominal Hours</b>			<b>360</b>

## Units & Elements at a Glance:

### Generic Units of Competencies (30 hours)

Code	Unit of Competency	Elements of Competency	Duration (Hours)
GU-01-L1-V1	Perform Computations Using Basic Mathematical Concepts	<ol style="list-style-type: none"> <li>1. Identify calculation requirements in the workplace</li> <li>2. Select appropriate mathematical methods for the calculation.</li> </ol>	15
GU-02-L1-V1	Apply Occupational Health and Safety (OSH) Procedure in the Workplace	<ol style="list-style-type: none"> <li>1. Use tool/instrument to perform calculations</li> <li>2. Identify OSH policies and procedures</li> <li>3. Follow OSH procedure</li> <li>4. Report hazards and risks</li> <li>5. Respond to emergencies</li> <li>6. Maintain personal well-being</li> </ol>	15

### Sector Specific Units of Competencies (60 Hours)

Code	Unit of Competency	Elements of Competency	Duration (Hours)
SU-FUR-01-L2-V1	Prepare Wood for Work	<ol style="list-style-type: none"> <li>1. Prepare wood for work piece</li> <li>2. Preserve wood</li> </ol>	20
SU-FUR-02-L2-V1	Use Measuring Instrument	<ol style="list-style-type: none"> <li>1. Follow OSH practices</li> <li>2. Select job and measuring instruments</li> <li>3. Carry out measurements and calculation</li> <li>4. Maintain measuring instruments</li> </ol>	20
SU-FUR-03-L2-V1	Interpret Technical Drawings	<ol style="list-style-type: none"> <li>1. Select technical drawing</li> <li>2. Interpret drawing and specification</li> </ol>	20

### Occupation Specific Units of Competencies (270 Hours)

Code	Unit of Competency	Elements of Competency	Hours
OU-FUR-WWMO-01-L2-V1	Use Hand Tools and Portable Power Tools	<ol style="list-style-type: none"> <li>1. Prepare for works</li> <li>2. Use hand tools safely</li> <li>3. Operate power tools safely</li> <li>4. Maintain hand and power tools</li> </ol>	20
OU-FUR-WWMO-02-L2-V1	Perform Planer Machine Operation	<ol style="list-style-type: none"> <li>1. Prepare planer machine for operation</li> <li>2. Plane the work piece</li> </ol>	50

		3. Maintain planer machine	
OU-FUR-WWMO-03-L2-V1	Operate Spindle Molder Machine	<ol style="list-style-type: none"> <li>1. Prepare for spindle molder machine for operation</li> <li>2. Plan and cut the work piece</li> <li>3. Maintain spindle molder machine</li> </ol>	50
OU-FUR-WWMO-04-L2-V1	Operate Circular Saw	<ol style="list-style-type: none"> <li>1. Preparer circular saw machine for operation</li> <li>2. Cut work piece</li> <li>3. Maintain circular saw machine</li> </ol>	40
OU-FUR-WWMO-05-L2-V1	Operate Mortise Machine	<ol style="list-style-type: none"> <li>1. Prepare mortise machine for operation</li> <li>2. Cut work piece</li> <li>3. Maintain mortise machine</li> </ol>	60
OU-FUR-WWMO-06-L2-V1	Operate Jigsaw Machine	<ol style="list-style-type: none"> <li>1. Prepare jigsaw machine for operation</li> <li>2. Cut work piece</li> <li>3. Maintain jigsaw machine</li> </ol>	50



## **Generic Units of Competencies**





Unit Code and Title	GU-01-L1-V1: Perform Computations Using Basic Mathematical Concepts
Nominal Hours	15 Hours
Unit Descriptor	<p>This unit of competency requires the knowledge, skills and attitude to perform computations using basic mathematical concepts in the workplace.</p> <p>It specifically includes the tasks of identifying calculation requirements in the workplace, selecting appropriate mathematical method/concept for the calculation and using appropriate instruments tools to perform calculation.</p>
Elements of Competency	<p><b>Performance Criteria</b>  <b>Bold &amp; Underlined</b> terms are elaborated in the Range of Variables Training Components</p>
1. Identify calculation requirements in the workplace	<p>1.1 Job requirements are identified</p> <p>1.2 <b><u>Measurements</u></b> are selected in accordance with job requirement</p> <p>1.3 Calculation requirements are identified from <b><u>workplace information</u></b></p>
2. Select appropriate mathematical methods for the calculation.	<p>2.1 Mathematical methods are identified</p> <p>2.2 <b><u>Appropriate method</u></b> is selected to carry out the calculation requirements</p> <p>2.3 Tolerance and clearance limits are identified and adjusted according to the job requirements</p>
3. Use tool/instrument to perform calculations	<p>3.1 Work instructions are confirmed and applied to the job in hand</p> <p>3.2 Materials to be measured are identified as per job specification</p> <p>3.3 Appropriate <b><u>tool/ instrument</u></b> is selected based on materials to be measured</p>
<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> (may include but not limited to)
1. Measurements	<p>1.1 Length</p> <p>1.2 Width</p> <p>1.3 Weight</p> <p>1.4 Tolerance</p>
2. workplace information	<p>2.1 Job Order</p> <p>2.2 Design</p> <p>2.3 Working drawing</p> <p>2.4 Verbal instructions</p> <p>2.5 Written Instruction</p>
3. Appropriate method	<p>3.1 Addition</p> <p>3.2 Subtraction</p> <p>3.3 Division</p> <p>3.4 Multiplication</p> <p>3.5 Conversion</p>

	3.6 Percentage and ratio calculation
4. Tool/ Instrument	4.1 Calculator 4.2 Scale 4.3 Measuring tape 4.4 Marker
<b>Evidence Guide</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical Aspects of Competency	Assessment required evidence that the candidate: 1.1 identified calculation requirements from workplace information 1.2 selected appropriate method to carry out the calculation 1.3 requirements 1.4 selected measurements 1.5 selected appropriate methods 1.6 used tool/instrument 1.7 added numbers 1.8 subtracted numbers 1.9 multiplied numbers. 1.10 divided numbers. 1.11 completed calculations using appropriate tools/instruments
2. Underpinning Knowledge	2.1. Numerical concept 2.2. Basic mathematical methods such as addition, subtraction, multiplication and division and percentage. 2.3. Mathematical language, symbols and terminology. 2.4. Measuring units
3. Underpinning Skills	3.1 Interpret numerical concept 3.2 Interpret mathematical methods such as addition, subtraction, multiplication and division and percentage. 3.3 Interpret mathematical language, symbols and terminology. 3.4 Interpret measuring units
4. Underpinning Attitudes	4.1. Commitment to occupational health and safety 4.2. Environmental concerns 4.3. Eagerness to learn 4.4. Tidiness and timeliness 4.5. Respect for rights of peers and seniors in workplace 4.6. Communication with peers and seniors in workplace
5. Resource Implications	5.1. Work place Procedure 5.2. Materials relevant to the proposed activity 5.3. All tools, equipment, material and documentation required. 5.4. Relevant specifications or work instructions
6. Methods of Assessment	6.1. Written Test 6.2. Demonstration

	6.3. Oral Questioning 6.4. Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by NSDA certified/ nominated 7.3 assessor
<p><b>Accreditation Requirements</b></p> <p>Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p>	

<b>Unit Code and Title</b>	<b>GU-02-L1-V1: Apply Occupational Safety and Health (OSH) Procedure in the Workplace</b>
<b>Unit Descriptor</b>	<p>This unit covers the knowledge, skills and attitudes required to apply occupational health and safety and health (OSH) procedure in the workplace.</p> <p>It specifically includes identifying OSH policies and procedures, following OSH procedure, reporting hazards and risks, responding to emergencies, and maintaining personal well-being.</p>
<b>Nominal Hours</b>	<b>15 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables
1. Identify OSH policies and procedures	<p>1.1. <b><u>OSH policies</u></b> and <b><u>safe operating procedures</u></b> are accessed and stated</p> <p>1.2. <b><u>Safety signs and symbols</u></b> are identified and followed</p> <p>1.3. Emergency response, evacuation procedures and other contingency measures are determined according to workplace requirements</p>
2. Follow OSH procedure	<p>2.1 <b><u>Personal protective equipment (PPE)</u></b> is selected and collected as required</p> <p>2.2 Personal protective equipment (PPE) is correctly used in accordance with organization OSH procedures and practices</p> <p>2.3 A clear and tidy workplace is maintained as per workplace standard</p> <p>2.4 PPE is maintained to keep them operational and compliant with OSH regulations</p>
3. Report hazards and risks.	<p>3.1 <b><u>Hazards</u></b> and risks are identified, assessed and controlled</p> <p>3.2 Incidents arising from hazards and risks are reported to designated authority</p>
4. Respond to emergencies	<p>4.1 Alarms and warning devices are responded</p> <p>4.2 Workplace <b><u>emergency procedures</u></b> are followed</p> <p>4.3 <b><u>Contingency measures</u></b> during workplace accidents, fire and other emergencies are recognized and followed in accordance with organization procedures</p> <p>4.4 First aid procedures is applied during emergency situations</p>
5. Maintain personal well-being	<p>5.1 OSH policies and procedures are adhered to</p> <p>5.2 OSH awareness programs are participated in as per workplace guidelines and procedures</p> <p>5.3 Corrective actions are implemented to correct unsafe condition in the workplace</p> <p>5.4 <b><u>“Fit to work” records</u></b> are updated and maintained according</p>

	to workplace requirements
<b>Range of Variables</b>	
<b>Variables</b>	<b>Range</b> (may include but not limited to):
1. OSH policies	<ul style="list-style-type: none"> <li>1.1. Bangladesh standards for OSH</li> <li>1.2. Fire Safety Rules and Regulations</li> <li>1.3. Code of Practice</li> <li>1.4. Industry Guidelines</li> </ul>
2. Safe operating procedures	<ul style="list-style-type: none"> <li>2.1 Orientation on emergency exits, fire extinguishers, fire escape, etc.</li> <li>2.2 Emergency procedures</li> <li>2.3 First Aid procedures</li> <li>2.4 Tagging procedures</li> <li>2.5 Use of PPE</li> <li>2.6 Safety procedures for hazardous substances</li> </ul>
3. Safety signs and symbols	<ul style="list-style-type: none"> <li>3.1 Direction signs (exit, emergency exit, etc.)</li> <li>3.2 First aid signs</li> <li>3.3 Danger Tags</li> <li>3.4 Hazard signs</li> <li>3.5 Safety tags</li> <li>3.6 Warning signs</li> </ul>
4. Personal Protective Equipment (PPE)	<ul style="list-style-type: none"> <li>4.1 Gas Mask</li> <li>4.2 Gloves</li> <li>4.3 Safety boots</li> <li>4.4 Face mask</li> <li>4.5 Overalls</li> <li>4.6 Goggles and safety glasses</li> <li>4.7 Sun block</li> <li>4.8 Chemical/Gas detectors</li> </ul>
5. Hazards	<ul style="list-style-type: none"> <li>5.1 Chemical hazards</li> <li>5.2 Biological hazards</li> <li>5.3 Physical Hazards</li> <li>5.4 Mechanical and Electrical Hazard</li> <li>5.5 Mental hazard</li> <li>5.6 Ergonomic hazard</li> </ul>
6. Emergency Procedures	<ul style="list-style-type: none"> <li>6.1 Fire fighting</li> <li>6.2 Earthquake</li> <li>6.3 Medical and first aid</li> <li>6.4 Evacuation</li> </ul>
7. Contingency measures	<ul style="list-style-type: none"> <li>7.1 Evacuation</li> <li>7.2 Isolation</li> <li>7.3 Decontamination</li> </ul>
8. “Fit to Work” records	<ul style="list-style-type: none"> <li>8.1 Medical Certificate every year</li> </ul>

	8.2 Accident reports, if any 8.3 Eye vision certificate
<b>Evidence Guide</b> The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 stated OSH policies and safe operating procedures 1.2 followed safety signs and symbols 1.3 used personal protective equipment (PPE) 1.4 maintained workplace clear and tidy 1.5 assessed and Controlled hazards 1.6 followed emergency procedures 1.7 followed contingency measures 1.8 implemented corrective actions
2. Underpinning knowledge	2.1 Define OSH 2.2 OSH Workplace Policies and Procedures 2.3 Work Safety Procedures 2.4 Emergency Procedures 2.5 Hazard control procedure 2.6 Different types of Hazards 2.7 PPE and there uses 2.8 Personal Hygiene Practices 2.9 OSH Awareness
3. Underpinning skills	3.1 Accessing OSH policies 3.2 Handling of PPE 3.3 Handling cleaning tools and equipment 3.4 Writing report 3.5 Responding to emergency procedures
4. Required attitude	4.1 Commitment to occupational health and safety 4.2 Sincere and honest to duties 4.3 Promptness in carrying out activities 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect of peers and seniors in workplace 4.8 Communicate with peers and seniors in workplace
5. Resource implications	5.1 Workplace 5.2 Equipment and outfits appropriate in applying safety measures 5.3 Tools, materials and documentation required 5.4 OSH Policies and Procedures
6. Methods of assessment	Assessment method may include but not limited to: 6.1 Written test

	6.2 Demonstration 6.3 Oral Questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by NSDA certified/ nominated assessor

**Accreditation Requirements**

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.



## **Sector Specific Units of Competencies**

<b>Unit Code and Title</b>	<b>SU-FUR-01-L2-V1: Prepare Wood for Work</b>
<b>Unit Descriptor</b>	This unit covers the skills, knowledge and attitude required to prepare wood for work. It includes the tasks of preparing wood for work piece and preserving wood
<b>Nominal Hours</b>	<b>20</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold and Underlined</u></b> terms are elaborated in the range of variables
1. Prepare wood for work piece	1.1 Occupational safety and health procedures are maintained throughout the works. 1.2 <b><u>Hazards</u></b> are identified and controlled for safe work 1.3 <b><u>Wood</u></b> and <b><u>wood substitutes</u></b> are selected according to the requirement of works. 1.4 <b><u>Quality</u></b> of wood is checked as per work specification. 1.5 Dimension of work piece is checked according to works specification. 1.6 Damaged and unnecessary portion of wood is trimmed as per <b><u>workplace procedures</u></b> using <b><u>hand tools and power tools.</u></b> 1.7 Prepared wood for is stored as per workplace procedures.
2. Preserve wood	2.1 Wood is seasoned and dried according to the workplace procedure and required work specification. 2.2 Wood is preserved according workplace procedure.
<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> (may include but is not limited to)
1. Hazards	1.1 Mask. 1.2 Apron. 1.3 Hearing protection. 1.4 Eye protector. 1.5 Safety shoes. 1.6 Hand gloves. 1.7 Helmet.
2. Wood	2.1 Teak. 2.2 Garjon. 2.3 Mahogany. 2.4 Mango. 2.5 Gamari. 2.6 ShilKarai.
3. Wood substitute	3.1 Particle board. 3.2 MDF board. 3.3 Veneer board. 3.4 Ply wood.
4. Quality	4.1 Seasoned wood pieces.

	<ul style="list-style-type: none"> <li>4.2 Wood pieces are free from buds and cracks.</li> <li>4.3 One directional wood grain.</li> <li>4.4 Moisture content in wood 8-12%.</li> </ul>
5. Workplace procedure	<ul style="list-style-type: none"> <li>5.1 Minimizing loss when trimming,</li> <li>5.2 Methods of sawing of wood block and wood drying,</li> <li>5.3 Marking of wood planks,</li> <li>5.4 Storing of prepared wood,</li> <li>5.5 Wood treatment</li> <li>5.6 Against pest,</li> <li>5.7 Inventory keeping etc.</li> </ul>
6. Hand tools	<ul style="list-style-type: none"> <li>6.1 Chisel.</li> <li>6.2 Hammer.</li> <li>6.3 Measuring tape.</li> <li>6.4 Foot ruler.</li> <li>6.5 Try square.</li> <li>6.6 Hand Saw.</li> <li>6.7 Sharpening stone.</li> <li>6.8 Triangular file.</li> <li>6.9 Moisture meter</li> </ul>
7. Power tools	<ul style="list-style-type: none"> <li>7.1 Hand circular saw</li> <li>7.2 Hand jig saw.</li> <li>7.3 Electric hand planer.</li> </ul>
<p><b>Evidence Guide:</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	
1. Critical aspects of competency	<p>Assessment requires evidence that the candidate must be able to:</p> <ul style="list-style-type: none"> <li>1.1 Maintained safety throughout the work.</li> <li>1.2 Identified wood</li> <li>1.3 Prepared and preserved wood</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 Types of wood and their properties.</li> <li>2.2 Quality criteria of wood.</li> <li>2.3 Wood preservation process.</li> <li>2.4 Uses and limitations of hand and power tools.</li> <li>2.5 Workplace procedure.</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Using safety equipment.</li> <li>3.2 Identifying wood for specified work.</li> <li>3.3 Use of hand and power tools.</li> <li>3.4 Applying techniques of preserving wood.</li> <li>3.5 Interpreting work specifications.</li> </ul>

4. Required attitude	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety.</li> <li>4.2 Environmental concerns.</li> <li>4.3 Promptness in carrying out activities.</li> <li>4.4 Tidiness and timeliness.</li> <li>4.5 Respect for rights of peers and seniors in workplace.</li> </ul>
5. Resource implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1 Work place procedure.</li> <li>5.2 Materials relevant to the proposed activity.</li> <li>5.3 All tools, equipment, material and documentation required.</li> <li>5.4 Relevant specifications or work instructions.</li> </ul>
6. Methods of assessment	<p>Competency must be assessed through:</p> <ul style="list-style-type: none"> <li>6.1 Performance Test / Demonstration.</li> <li>6.2 Oral Questioning.</li> <li>6.3 Assignment.</li> <li>6.4 Written Test.</li> </ul>
7. Context for assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module.</li> <li>7.2 Assessment should be done by NSDA certified/ nominated assessor</li> </ul>

**Accreditation Requirements**

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

<b>Unit Code and Title</b>	<b>SU-FUR-02-L1-V1: Use Measuring Instruments</b>
<b>Unit Descriptor</b>	This unit covers the knowledge, skills and attitudes required to use measuring instruments.  It specifically includes the tasks of following OSH practices, selecting job and measuring instruments, carrying out measurements and calculation and maintaining measuring instruments.
<b>Nominal Hours</b>	<b>20 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables
1. Follow OSH practices	1.1 Safe work practices observed and Personal Proactive Equipment ( <b><u>PPE</u></b> ) used as required for the work performance.  1.1 PPE is selected and worn. 1.2 OSH practices are followed throughout the work process
2. Select job and measuring instruments	2.1 Object or component to be measured is identified. 2.2 Correct specifications are obtained from relevant source 2.3 Required <b><u>measuring instruments</u></b> is selected in accordance with job requirements. 2.4 Tolerance and clearance limit are selected according to job requirements. 2.5 Measuring instruments are calibrated as per standard if necessary;
3. Carry out measurements and calculation	3.1 Routine adjustment is done for measuring equipment as per instruction manuals. 3.2 <b><u>Measurement</u></b> is taken according to drawing or specification. 3.3 Necessary <b><u>calculation</u></b> is carried out to confirm the dimension of work mentioned in <b><u>documents</u></b> . 3.4 Measurement is checked against job requirement. 3.5 Measurements are recorded on form/drawing/sketches. 3.6 Recorded measurements are interpreted and communicated to authority.
4. Maintain measuring instruments	4.1 Measuring instruments are checked for damage prior to storage. 4.2 Measuring instruments are cleaned before and after using. 4.3 Waste materials are disposal in the designated place
<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> (may include but not limited to):
	5.1 Dust mask. 5.2 Apron 5.3 Hand gloves

1. PPE	<ul style="list-style-type: none"> <li>5.4 Goggles.</li> <li>5.5 Safety shoes.</li> <li>5.6 Helmet.</li> </ul>
1. Measuring instruments	<ul style="list-style-type: none"> <li>1.1 Measuring tape (Steel, Leather, Synthetic)</li> <li>1.2 Callipers (inside-outside)</li> <li>1.3 Vernier Callipers</li> <li>1.4 Try square</li> <li>1.5 Steel rule</li> <li>1.6 T square</li> </ul>
2. Measurement	<ul style="list-style-type: none"> <li>2.1 Thickness</li> <li>2.2 Length.</li> <li>2.3 Width.</li> <li>2.4 Depth.</li> <li>2.5 Height.</li> <li>2.6 Angle.</li> <li>2.7 Diameter.</li> <li>2.8 Clearances.</li> </ul>
3. Basic calculation	<ul style="list-style-type: none"> <li>3.1 Volume (Rectangular, Cylindrical)</li> <li>3.2 Area (Rectangle, Circle, Triangle, Square)Circumference</li> <li>3.3 Outside diameter</li> <li>3.4 Addition.</li> <li>3.5 Subtraction.</li> <li>3.6 Multiplication.</li> <li>3.7 Division.</li> <li>3.8 Fractions and decimals.</li> </ul>
4. Documents	<ul style="list-style-type: none"> <li>2.1 Drawings.</li> <li>2.2 Sketches.</li> <li>2.3 Technical manuals.</li> <li>2.4 Specifications.</li> <li>4.1 Written instructions.</li> </ul>
<p><b>Evidence Guide</b>  The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency.</p>	
1. Critical aspects of competency	<p>Assessment required evidences that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Identified the proper graduated measuring instrument.</li> <li>1.2 Followed safety guidelines.</li> <li>1.3 Performed measurement according to job requirement.</li> <li>1.4 Calculated area and volume.</li> <li>1.5 Recorded measurement.</li> </ul>

	1.6 Interpreted written instructions.
2. Underpinning knowledge	2.1 Types of measuring tools and equipment. 2.2 Measuring instruments and its use. 2.3 Formula for volume, area, perimeter and other geometric figures. 2.4 Techniques of using different measuring instruments. 2.5 Unit of conversion and conversion factors. 2.6 Care in the use of measuring tools.
3. Underpinning skills	3.1 Selecting measuring tools. 3.2 Handling measuring instruments. 3.3 Taking measurements. 3.4 Interpreting instruction and technical drawing. 3.5 Caring and handling measuring instruments. 3.6 Calibrating and using measuring instruments. 3.7 Performing calculation by addition, subtraction, multiplication and division. 3.8 Interpreting formula for volume, area, perimeter and other geometric figures.
4. Required attitudes	4.1 Commitment to occupational safety and health. 4.2 Promptness in carrying out activities. 4.3 Sincere and honest to duties. 4.4 Eagerness to learn. 4.5 Tidiness and timeliness. 4.6 Environmental concerns. 4.7 Respect for rights of peers and seniors at workplace. 4.8 Communication with peers and seniors at workplace.
5. Resource implication	The following resources must be provided: 5.1 workplace (actual or simulated) 5.2 tools, equipment and physical facilities appropriate to perform activities 5.3 materials and consumables needed to perform activities.
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 written test 6.2 demonstration 6.3 oral questioning 6.4 portfolio.
7. Context of Assessment	7.3 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.4 Assessment should be done by NSDA certified/ nominated assessor

**Accreditation Requirements**

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<b>Unit Code and Title</b>	<b>SU-FUR-02-L1-V1: Interpret Technical Drawing</b>
<b>Unit Descriptor</b>	This unit covers the knowledge, skills and attitudes required to interpret technical drawing.  It specifically includes the tasks of selecting technical drawing and interpreting technical drawing.
<b>Nominal Hours</b>	<b>20 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables
1. Select technical drawing	1.1 <b><u>Drawing</u></b> is selected and checked to ensure that it conforms to the job requirements. 1.2 Drawing is validated by the responsible person.
2. Interpret drawing and specifications	2.1 Drawing components and assemblies are identified. 2.2 Dimensions are identified in accordance with job requirement. 2.3 Components, assemblies or objects are recognized as required. 2.4 Instructions are identified and followed to perform required job. 2.5 Material specifications are identified interpreted. 2.6 <b><u>Symbols</u></b> in drawing are identified and interpreted.
<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> (may include but not limited to):
1. Drawing	1.1 Freehand sketch 1.2 Technical drawing: <ul style="list-style-type: none"> <li>▪ Isometric view (Top view, side view, back panel, bottom and bit)</li> <li>▪ Oblique view</li> <li>▪ Orthographic view</li> </ul>
2. Symbol	2.1 Mirror / clear glass 2.2 Lock / handle / knob 2.3 Magnet 2.4 Spot light 2.5 Channel 2.6 Hinge (round / straight / half round) 2.7 Cable passing 2.8 Wood
<b>Evidence Guide</b> The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidences that the candidate: <ol style="list-style-type: none"> <li>1.1 identified dimension according to job requirement</li> <li>1.2 recorded clearances and tolerances according to the fit requirement</li> <li>1.3 interpret drawing symbols.</li> <li>1.4 interpreted specification</li> </ol>

2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 Types of drawing.</li> <li>2.2 Types of symbols.</li> <li>2.3 Unit of measurements.</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Interpreting data and instruction given in the drawing.</li> <li>3.2 Interpreting measurements and scale of drawing.</li> </ul>
4. Required attitudes	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational safety and health.</li> <li>4.2 Promptness in carrying out activities.</li> <li>4.3 Sincere and honest to duties.</li> <li>4.4 Environmental concerns.</li> <li>4.5 Eagerness to learn.</li> <li>4.6 Tidiness and timeliness.</li> <li>4.7 Respect for rights of peers and seniors at workplace.</li> <li>4.8 Communication with peers and seniors at workplace.</li> </ul>
5. Resource implication	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1 workplace (actual or simulated)</li> <li>5.2 tools, equipment and physical facilities appropriate to perform activities</li> <li>5.3 materials and consumables needed to perform activities.</li> </ul>
6. Methods of assessment	<p>Methods of assessment may include but not limited to:</p> <ul style="list-style-type: none"> <li>6.1 written test</li> <li>6.2 demonstration</li> <li>6.3 oral questioning</li> <li>6.4 portfolio.</li> </ul>
7. Context of assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment must be done in NSDA accredited assessment centre</li> <li>7.2 Assessment should be done by a NSDA certified/nominated assessor</li> </ul>
<p><b>Accreditation Requirements</b></p> <p>Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under NSQF/BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA</p>	

## **Occupation Specific Units of Competencies**

<b>Unit Code and Title</b>	<b>OU-FUR-OU-01-L1-V1: Use Hand Tools and Portable Power Tools</b>
<b>Unit Descriptor</b>	This unit covers the knowledge, skills and attitudes required to use hand tools and portable power tools. It specifically includes the tasks of preparing for works, using hand tools Operating and maintaining hand and power tools.
<b>Nominal Hours</b>	<b>20 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables
1. Prepare for works	<p>1.1 Occupational Safety and Health (OSH) requirements, are observed</p> <p>1.2 Tasks are identified.</p> <p>1.3 Safe work practice is observed and <b><u>Personal Protective Equipment (PPE)</u></b> is worn as per workplace requirement</p> <p>1.4 <b><u>Hand tools and portable power tools</u></b> are identified and selected in accordance with the <b><u>task</u></b> requirements.</p>
2. Use hand tools safely	<p>2.1 Safety precautions are ensured before using hand tools</p> <p>2.2 Hand tools are checked for proper operation</p> <p>2.3 Unsafe or faulty hand tools are identified and marked for repair</p> <p>2.4 Material is located and held in <b><u>holding and clamping devices</u></b> for hand tool application.</p> <p>2.5 Use hand tools safely to perform a work activity according to work place procedure</p>
3. Operate power tools safely	<p>3.1 Power supply outlet and electrical cord are inspected and confirmed safe for use following established workplace safety requirements</p> <p>3.2 Safety precautions are ensured before using power tools following the manufacturer's operating specifications</p> <p>3.3 Unsafe or faulty power tools are identified and marked for repair</p> <p>3.4 Material is located and held in holding and clamping devices for power tools application as applicable.</p> <p>3.5 The proper <b><u>sequence of operation</u></b> is applied for using power tools</p> <p>3.6 All safety requirements are complied with the job requirements before, during and after use.</p>
4. Maintain hand and power tools	<p>4.1 Hand tools and power tools are checked for damage prior to storage.</p> <p>4.2 Hand tools and power tools are cleaned before and after using.</p> <p>4.3 Power tools are maintained using relevant lubrications as per manufacturer's instructions.</p> <p>4.4 Hand tools and power tools are stored in the designated area.</p>
<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> (may include but not limited to:)

1. Personal Protective Equipment	<ul style="list-style-type: none"> <li>1.1 Hand gloves</li> <li>1.2 Helmet</li> <li>1.3 Apron/Boiler suit</li> <li>1.4 Goggles</li> <li>1.5 Face masks</li> <li>1.6 Safety shoes</li> <li>1.7 Ear plug</li> </ul>
2. Hand tools	<ul style="list-style-type: none"> <li>2.1 Ball Pin Hammer</li> <li>2.2 Mallet</li> <li>2.3 Measuring tape</li> <li>2.4 Ruler (Wood and Steel)</li> <li>2.5 Vernier scale</li> <li>2.6 Try square</li> <li>2.7 Screwdriver (Flat and Star)</li> <li>2.8 Wood files</li> <li>2.9 Vice</li> <li>2.10 C-Clamp</li> <li>2.11 Pincers</li> <li>2.12 Nail Punch</li> <li>2.13 Spanner</li> <li>2.14 Allen Key</li> </ul>
3. Portable power tools	<ul style="list-style-type: none"> <li>3.1 Blower</li> <li>3.2 Hand circular saw.</li> <li>3.3 Electric planer.</li> <li>3.4 Hand jig saw.</li> <li>3.5 Surface sanders.</li> <li>3.6 Hand router</li> <li>3.7 Dust collector</li> </ul>
4. Task	<ul style="list-style-type: none"> <li>4.1 Drilling</li> <li>4.2 Cutting.</li> <li>4.3 Beveling</li> <li>4.4 Sawing</li> <li>4.5 Planning.</li> <li>4.6 Finishing.</li> <li>4.7 Scraping.</li> <li>4.8 Slotting.</li> </ul>
5. Holding and clamping devices	<ul style="list-style-type: none"> <li>5.1 Multi grips</li> <li>5.2 Vices</li> <li>5.3 Jigs and fixtures</li> <li>5.4 Clamps</li> </ul>
6. Sequence of operation	<ul style="list-style-type: none"> <li>6.1 Clamping.</li> <li>6.2 Alignment.</li> <li>6.3 Adjustment.</li> </ul>

<b>Evidence Guide</b>	
The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency.	
1. Critical aspects of competency	<p>Assessment required evidences that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 followed OSH as per requirement</li> <li>1.2 demonstrated safe working practices</li> <li>1.3 used hand tools safely</li> <li>1.4 operated power tools safely</li> <li>1.5 maintained and stored hand tools and power tools.</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 Classification of tools</li> <li>2.2 Safety requirements in handling tools.</li> <li>2.3 Function, operation and common faults of tools</li> <li>2.4 Maintenance of tools.</li> <li>2.5 Storage of tools.</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Safe handling of tools</li> <li>3.2 Sharpening cutting tools safely.</li> <li>3.3 Using and maintaining hand tools and portable power tools.</li> <li>3.4 Following OSH</li> <li>3.5 Cleaning and storing hand and power tools</li> </ul>
4. Required attitudes	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational safety and health.</li> <li>4.2 Promptness in carrying out activities.</li> <li>4.3 Sincere and honest to duties.</li> <li>4.4 Eagerness to learn.</li> <li>4.5 Tidiness and timeliness.</li> <li>4.6 Environmental concerns.</li> <li>4.7 Respect for rights of peers and seniors at workplace.</li> <li>4.8 Communication with peers and seniors at workplace.</li> </ul>
5. Resource implication	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1 Workplace (actual or simulated)</li> <li>5.2 Tools, equipment and physical facilities appropriate to perform activities</li> <li>5.3 Materials, consumables to perform activities.</li> </ul>
6. Methods of assessment	<p>Methods of assessment may include but not limited to:</p> <ul style="list-style-type: none"> <li>6.1 written test</li> <li>6.2 demonstration</li> <li>6.3 oral questioning</li> <li>6.4 portfolio.</li> </ul>
7. Context of assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module.</li> <li>7.2 Assessment should be done by NSDA certified/ nominated assessor</li> </ul>

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<b>Unit Code &amp; Title:</b>	<b>OU-FUR-WWMO-02-L2-V1: Perform Planer Machine Operation</b>
<b>Unit Descriptor:</b>	This unit covers the knowledge, skills and attitudes required to perform Planer Machine Operation. It includes preparing planer machine for operation, planning the work piece and maintaining planer machine.
<b>Nominal Hours:</b>	<b>50</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> words are detailed in the Range of Variables.
1. Prepare planer machine for operation	<p>1.1 OSH is followed throughout the work procedure</p> <p>1.2 <b><u>Personal Protective Equipment(PPE)</u></b> are selected and worn as required.</p> <p>1.3 Machine are checked and adjusted as per requirement</p> <p>1.4 <b><u>Tools</u></b> and <b><u>materials</u></b> and equipment are selected and collected as per job requirements.</p> <p>1.5 Tools and materials are prepared as per job requirement.</p> <p>1.6 Lubrication of machine is checked and applied as per manufacture's manual.</p>
2. Plane the work piece	<p>2.1 Drawings are interpreted.</p> <p>2.2 <b><u>Quality of wood</u></b> is checked as per job requirements.</p> <p>2.3 <b><u>Planer machine</u></b> is <b><u>set up</u></b> &amp; operated as per machine operation manual and appropriate to the shape and size of work piece.</p> <p>2.4 Surface of work piece is smoothed and leveled as per job requirement</p> <p>2.5 Surface of work piece is smoothed and leveled until specified dimension is achieved.</p> <p>2.6 <b><u>Faults</u></b> are detected and rectified for smooth operations as required.</p>
3. Maintain planer machine	<p>3.1 Machine and work area is cleaned according to workplace procedures after completion of work.</p> <p>3.2 Lubricants are applied into the moving parts of machine as per manufacture's manual.</p> <p>3.3 Cutting tools are checked and sent for sharpening and maintenance as per the workplace procedure.</p> <p>3.4 Tools and equipment's are stored in specified location according to workplace procedure.</p> <p>3.5 Waste materials are disposed as per workplace procedures.</p>
<b>Range of Variable</b>	
<b>Variable</b>	<b>Range (May include but is not limited to):</b>



1. Personal Protective Equipment (PPE)	<ul style="list-style-type: none"> <li>1.1 Mask.</li> <li>1.2 Ear defender.</li> <li>1.3 Apron.</li> <li>1.4 Eye Protector.</li> <li>1.5 Safety shoes.</li> <li>1.6 Hand gloves.</li> <li>1.7 Helmet.</li> </ul>
2. Tools	<ul style="list-style-type: none"> <li>2.1 Screw drivers.</li> <li>2.2 Allen key.</li> <li>2.3 Oil can.</li> <li>2.4 Open ended wrench set.</li> <li>2.5 Measuring tape.</li> <li>2.6 Try square.</li> <li>2.7 Slide wrench.</li> <li>2.8 Sprit level.</li> <li>2.9 Planning blades.</li> <li>2.10 Moisture meter</li> <li>2.11 Vernier caliper</li> </ul>
3. Materials	<ul style="list-style-type: none"> <li>3.1 Different type of wood pieces. (Mango, teak, mahogany, gamary) etc.</li> <li>3.2 Board (Veneer board, MDF boards, MFC board, plywood) etc.</li> <li>3.3 Lubricating oil</li> </ul>
4. Quality of wood	<ul style="list-style-type: none"> <li>4.1 Seasoned wood pieces.</li> <li>4.2 Matured wood.</li> <li>4.3 Wood pieces are free from buds and cracks.</li> <li>4.4 One directional wood grain.</li> <li>4.5 Moisture content of wood 8~12%.</li> </ul>
5. Planner machine	<ul style="list-style-type: none"> <li>5.1 Jointer planer.</li> <li>5.2 Thickness planer.</li> </ul>
6. Set-up	<ul style="list-style-type: none"> <li>6.1 Safety guards.</li> <li>6.2 Machine parts adjustment.</li> <li>6.3 Tightening cutting blade.</li> <li>6.4 Set fence as per required angle.</li> <li>6.5 In-feed &amp; out-feed tables of the jointer planner.</li> <li>6.6 Thickness adjuster level.</li> <li>6.7 Thickness fine adjuster.</li> </ul>
7. Faults	<ul style="list-style-type: none"> <li>7.1 Belt tearing.</li> <li>7.2 Machine jam due to overload.</li> <li>7.3 Damage of blade due to nail on wood.</li> <li>7.4 Loose blade due to poor fitting.</li> <li>7.5 Power switch is not working</li> <li>7.6 Adjustment problems of thickness planner</li> </ul>

<b>Evidence Guide:</b>	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	<p>Assessment requires evidence that the candidate must be able to:</p> <ol style="list-style-type: none"> <li>1.1 Followed safety procedures throughout the work.</li> <li>1.2 Checked the work piece for cracks, nails, buds and damaged area.</li> <li>1.3 Set up and operated planer machines</li> <li>1.4 Smoothened the surface of work pieces without damaging cutting tools and work piece.</li> <li>1.5 Cleaned &amp; lubricated machine as per user manuals.</li> </ol>
2. Underpinning knowledge	<ol style="list-style-type: none"> <li>2.1 The types, uses &amp; limitation of planer.</li> <li>2.2 Different parts and its functions of planer machines.</li> <li>2.3 Importance of blade/cutter sharpness.</li> <li>2.4 Precautions to be taken while checking the sharpness of the blade/cutter.</li> <li>2.5 Importance of identifying the proper work piece.</li> </ol>
3. Underpinning skills	<ol style="list-style-type: none"> <li>3.1 Checking of machine lubrication.</li> <li>3.2 Checking blade/cutter sharpness.</li> <li>3.3 Identification of quality work piece for leveling.</li> <li>3.4 Steps of setting thickness planer &amp; jointer planer.</li> <li>3.5 Interpreting drawings and specification.</li> <li>3.6 Operation of jointer planer.</li> <li>3.7 Setting machine component as per work piece requirement.</li> <li>3.8 Leveling process &amp; techniques using jointer &amp; thickness planer.</li> <li>3.9 Adjusting of in-feed &amp; out-feed tables of the jointer planner.</li> <li>3.10 Cleaning and lubricating of machine.</li> </ol>
4. Required attitude	<ol style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety.</li> <li>4.2 Environmental concerns.</li> <li>4.3 Promptness in carrying out activities.</li> <li>4.3 Tidiness and timeliness.</li> <li>4.4 Respect for rights of peers and seniors in workplace.</li> <li>4.5 Proper attention required during work.</li> <li>4.6 Eagerness to learn.</li> </ol>
5. Resource implications	<p>The following resources MUST be provided:</p> <ol style="list-style-type: none"> <li>5.1 Workplace.</li> <li>5.2 Workplace Procedure.</li> <li>5.3 Tools, equipment and facilities appropriate to processes or activity.</li> <li>5.4 Materials relevant to the proposed activity.</li> <li>5.5 Equipment and outfits appropriate in applying safety measures.</li> <li>5.6 Relevant drawings, manuals, standards and reference</li> </ol>

	materials.
6. Methods of assessment	<p>Assessment methods may include but not limited to:</p> <p>6.1 Performance Test / Demonstration.</p> <p>6.2 Oral Questioning.</p> <p>6.3 Written Test.</p> <p>6.4 Portfolio</p>
Context of assessment	<p>7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module.</p> <p>7.2 Assessment should be done by NSDA certified/ nominated assessor</p>

### **Accreditation Requirements**

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

<b>Unit Code &amp; Title:</b>	<b>OU-FUR-WWMO-03-L2-V1: Operate Spindle Molder Machine</b>
<b>Unit Descriptor:</b>	<p>This unit covers the knowledge, skills and attitudes required to operate spindle molder machine.</p> <p>It includes preparing for spindle molder machine for operation, planning and cutting the work piece, maintaining spindle molder machine</p>
<b>Nominal Hours:</b>	<b>50</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b>
	<b><u>Bold &amp; italicized</u></b> words are detailed in the Range of Variables.
1. Prepare for spindle molder machine for operation	<p>1.1 OSH is followed throughout the work procedure</p> <p>1.2 <b><u>Personal Protective Equipment(PPE)</u></b> are selected and worn as required.</p> <p>1.3 Machine are checked and adjusted as per requirement</p> <p>1.4 <b><u>Tools</u></b> and <b><u>materials</u></b> and equipment are selected and collected as per job requirements.</p> <p>1.5 Tools and materials are prepared as per job requirement.</p> <p>1.6 Lubrication of machine is checked and applied as per manufacture's manual.</p>
2. Plan and cut the work piece	<p>2.1 Drawings are interpreted.</p> <p>2.2 <b><u>Quality of wood</u></b> is checked as per job requirements.</p> <p>2.3 Spindle molder machine is <b><u>set up</u></b> &amp; operated as per machine operation manual and appropriate to the shape and size of work piece.</p> <p>2.4 Cutter is selected for edge preparation as per <b><u>operation</u></b></p> <p>2.5 Edge mold of workpiece is smoothed and leveled as per job requirement</p> <p>2.6 <b><u>Faults</u></b> are detected and rectified for smooth operations as required.</p>
3. Maintain spindle molder machine	<p>3.1 Machine and work area is cleaned according to workplace procedures after completion of work.</p> <p>3.2 Lubricants are applied into the moving parts of machine as per manufacture's manual.</p> <p>3.3 Cutting tools are checked and sent for sharpening and maintenance as per the workplace procedure.</p> <p>3.4 Tools and equipment's are stored in specified location according to workplace procedure.</p> <p>3.5 Waste materials are disposed as per workplace procedures.</p>
<b>Range of Variable</b>	
<b>Variable</b>	<b>Range (May include but is not limited to):</b>
1. Personal Protective Equipment(PPE)	<p>1.1 Mask.</p> <p>1.2 Ear defender.</p> <p>1.3 Apron.</p>

	<ul style="list-style-type: none"> <li>1.4 Eye Protector.</li> <li>1.5 Safety shoes.</li> <li>1.6 Hand gloves.</li> <li>1.7 Helmet.</li> </ul>
2. Tools	<ul style="list-style-type: none"> <li>2.1 Screw drivers.</li> <li>2.2 Allen key.</li> <li>2.3 Oil can.</li> <li>2.4 Open ended wrench set.</li> <li>2.5 Measuring tape.</li> <li>2.6 Try square.</li> <li>2.7 Slide wrench.</li> <li>2.8 Planning blades.</li> <li>2.9 Vernier caliper</li> </ul>
3. Material	<ul style="list-style-type: none"> <li>3.1 Different type of wood pieces. (Mango, teak, mahogany, gamary) etc.</li> <li>3.2 Board (Veneer board, MDF boards, MFC board, plywood) etc.</li> <li>3.3 Lubricating oil</li> </ul>
4. Quality of wood	<ul style="list-style-type: none"> <li>4.1 Seasoned wood pieces.</li> <li>4.2 Matured wood.</li> <li>4.3 Wood pieces are free from buds and cracks.</li> <li>4.4 One directional wood grain.</li> <li>4.5 Moisture content of wood 8~12%.</li> </ul>
5. Set up	<ul style="list-style-type: none"> <li>5.1 Safety guards.</li> <li>5.2 Machine parts adjustment.</li> <li>5.3 Tightening cutter</li> <li>5.4 Set fence as per required angle.</li> <li>5.5 In-feed &amp; out-feed tables of the Spindle molder machine.</li> <li>5.6 Spindle molder machine adjuster level.</li> <li>5.7 Spindle molder machine cutter adjuster.</li> </ul>
6. Operation	<ul style="list-style-type: none"> <li>6.1 Grooving</li> <li>6.2 Designing</li> <li>6.3 Rabbeting</li> <li>6.4 Beveling</li> <li>6.5 Shaping</li> </ul>
7. Faults	<ul style="list-style-type: none"> <li>7.1 Belt tearing.</li> <li>7.2 Machine jam due to overload.</li> <li>7.3 Damage of blade due to nail on wood.</li> <li>7.4 Loose blade due to poor fitting.</li> <li>7.5 Power switch is not working</li> <li>7.6 Adjustment problems of Spindle molder machine</li> </ul>

**Evidence Guide:**

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate must be able to:</p> <ul style="list-style-type: none"> <li>1.1 followed safety procedures throughout the work.</li> <li>1.2 checked the work piece for cracks, nails, buds and damaged area.</li> <li>1.3 set up and operated planer machines</li> <li>1.4 smoothed the surface of work pieces without damaging cutting tools and work piece.</li> <li>1.5 cleaned &amp; lubricated machine as per user manuals.</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 The types, uses &amp; limitation of planer.</li> <li>2.2 Different parts and its functions of planer machines.</li> <li>2.3 Importance of blade/cutter sharpness.</li> <li>2.4 Precautions to be taken while checking the sharpness of the blade/cutter.</li> <li>2.5 Importance of identifying the proper work piece.</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Checking of machine lubrication.</li> <li>3.2 Checking blade/cutter sharpness.</li> <li>3.3 Identification of quality work piece for leveling.</li> <li>3.4 Steps of setting thickness planer &amp; jointer planer.</li> <li>3.5 Interpreting drawings and specification.</li> <li>3.6 Operation of jointer planer.</li> <li>3.7 Setting machine component as per work piece requirement.</li> <li>3.8 Leveling process &amp; techniques using jointer &amp; thickness planer.</li> <li>3.9 Adjusting of in-feed &amp; out-feed tables of the jointer planner.</li> <li>3.10 Cleaning and lubricating of machine.</li> </ul>
4. Required attitude	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety.</li> <li>4.2 Environmental concerns.</li> <li>4.3 Promptness in carrying out activities.</li> <li>4.4 Tidiness and timeliness.</li> <li>4.5 Respect for rights of peers and seniors in workplace.</li> <li>4.6 Proper attention required during work.</li> <li>4.7 Eagerness to learn.</li> </ul>
5. Resource implications	<p>The following resources MUST be provided:</p> <ul style="list-style-type: none"> <li>5.1 Workplace.</li> <li>5.2 Workplace Procedure.</li> <li>5.3 Tools, equipment and facilities appropriate to processes or activity.</li> <li>5.4 Materials relevant to the proposed activity.</li> <li>5.5 Equipment and outfits appropriate in applying safety measures.</li> <li>5.6 Relevant drawings, manuals, standards and reference materials.</li> </ul>

6. Methods of assessment	Assessment methods may include but not limited to: 6.1 Performance Test / Demonstration. 6.2 Oral Questioning. 6.3 Written Test. 6.4 Portfolio
Context of assessment	7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module. 7.2 Assessment should be done by NSDA certified/ nominated assessor

**Accreditation Requirements**

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

<b>Unit Code &amp; Title:</b>	<b>OU-FUR-WWMO-04-L2-V1: Operate Circular Saw</b>
<b>Unit Descriptor:</b>	This unit covers the knowledge, skills and attitudes required to Operate Circular Saw with Tilting Blade. It includes of preparing circular saw machine for operation, cutting work piece and maintaining circular saw machine
<b>Nominal Hours:</b>	<b>40</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> words are detailed in the Range of Variables.
1. Preparer circular saw machine for operation	1.1 OSH is followed throughout the work procedure 1.2 <b><u>Personal Protective Equipment(PPE)</u></b> are selected and worn as required. 1.3 Machine are checked and adjusted as per requirement 1.4 <b><u>Tools</u></b> and <b><u>materials</u></b> and equipment are selected and collected as per job requirements. 1.5 Tools and materials are prepared as per job requirement. 1.6 Lubrication of machine is checked and applied as per manufacture's manual.
2. Cut work piece	2.1 <b><u>Circular saw machines</u></b> are identified as per job requirement 2.2 Drawings are interpreted. 2.3 <b><u>Quality of wood</u></b> is checked as per job requirements. 2.4 Circular saw is <b><u>set up</u></b> and operated as per machine operation manual and appropriate to the shape and size of work piece. 2.5 Work piece is <b><u>cut</u></b> according to requirement. 2.6 Measurement of work piece is checked as per requirement. 2.7 <b><u>Faults</u></b> are detected and rectified for cutting operations as required.
3. Maintain circular saw machine	3.1 Machines and work area are cleaned according to workplace procedures after completion of work. 3.2 Lubricants are applied into the moving parts of machine as per manufacture's manual. 3.3 Cutting tools are checked and sent for sharpening and maintenance as per the workplace procedure. 3.4 Tools and equipment's are stored in specified location according to workplace procedure. 3.5 Waste materials are disposed as per workplace procedures.
<b>Range of Variable</b>	
<b>Variable</b>	<b>Range (May include but is not limited to):</b>
1. Personal Protective Equipment (PPE)	1.1 Mask. 1.2 Apron. 1.3 Eye Protector. 1.4 Safety shoes. 1.5 Hand gloves. 1.6 Helmet.



2. Tools	<ul style="list-style-type: none"> <li>2.1 Screw drivers.</li> <li>2.2 Allen key.</li> <li>2.3 Oil can.</li> <li>2.4 Open ended wrench set.</li> <li>2.5 Tri-square.</li> <li>2.6 Slide wrench.</li> <li>2.7 Sprit level.</li> <li>2.8 Measuring tape.</li> </ul>
3. Materials	<ul style="list-style-type: none"> <li>3.1 Different type of wood pieces.</li> <li>3.2 Particle plain board.</li> <li>3.3 PVC board</li> <li>3.4 Particle veneer board.</li> <li>3.5 MFC Board</li> <li>3.6 MDF board</li> <li>3.7 Plywood</li> <li>3.8 Lubricating oil</li> </ul>
4. Circular Saw machine	<ul style="list-style-type: none"> <li>4.1 Pedestal circular saw</li> <li>4.2 Portable or hand circular saw</li> </ul>
5. Quality of wood	<ul style="list-style-type: none"> <li>5.1 Seasoned wood pieces.</li> <li>5.2 Matured wood.</li> <li>5.3 Wood pieces are free from buds and cracks.</li> <li>5.4 One directional wood grain.</li> <li>5.5 Moisture content of wood 8~12%.</li> </ul>
6. Set up	<ul style="list-style-type: none"> <li>6.1 Safety guards.</li> <li>6.2 Machine parts adjustment.</li> <li>6.3 Set the cutting saw.</li> <li>6.4 Set fence as per required angle.</li> <li>6.5 Guide</li> <li>6.6 Riping</li> </ul>
7. Cut	<ul style="list-style-type: none"> <li>7.1 Lengthwise cutting.</li> <li>7.2 Cross cutting.</li> <li>7.3 Angle cutting (0-90)o</li> </ul>
8. Faults	<ul style="list-style-type: none"> <li>8.1 Belt tearing.</li> <li>8.2 Machine jam due to overload.</li> <li>8.3 Loose blade due to poor fitting.</li> <li>8.4 Bearing failure</li> <li>8.5 Machine jam due to overload.</li> <li>8.6 Damage of blade due to nail on wood.</li> <li>8.7 Loose blade due to poor fitting.</li> <li>8.8 Power switch is not working</li> </ul>

**Evidence Guide:**

The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate must be able to:</p> <ul style="list-style-type: none"> <li>1.1 followed safety procedures throughout the work.</li> <li>1.2 checked the work piece for cracks, nails, buds and damaged area.</li> <li>1.3 set up and operated circular saw machine</li> <li>1.4 cut work pieces without damaging cutting tools and work piece.</li> <li>1.5 cleaned &amp; lubricated machine as per user manuals.</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 The types, uses &amp; limitation of circular saw</li> <li>2.2 Different parts and its functions of circular saw.</li> <li>2.3 Importance of blade sharpness.</li> <li>2.4 Precautions to be taken while checking the sharpness of the blade</li> <li>2.5 Importance of identifying the proper work piece.</li> <li>2.6 Occupational Safety and Health (OSH) procedure.</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Checking of machine lubrication.</li> <li>3.2 Checking blade sharpness.</li> <li>3.3 Identification of quality work piece for cutting</li> <li>3.4 Steps of setting circular saw</li> <li>3.5 Interpreting drawings and specification.</li> <li>3.6 Operation of circular saw.</li> <li>3.7 Adjusting of blade in different angles as necessary.</li> <li>3.8 Cleaning and lubricating of machine.</li> </ul>
4. Required attitude	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety.</li> <li>4.2 Environmental concerns.</li> <li>4.3 Promptness in carrying out activities.</li> <li>4.4 Tidiness and timeliness.</li> <li>4.5 Respect for rights of peers and seniors in workplace.</li> <li>4.6 Proper attention required during work.</li> <li>4.7 Eagerness to learn.</li> </ul>
5. Resource implications	<p>The following resources MUST be provided:</p> <ul style="list-style-type: none"> <li>5.1 Workplace.</li> <li>5.2 Work place Procedure.</li> <li>5.3 Tools, equipment and facilities appropriate to processes or activity.</li> <li>5.4 Materials relevant to the proposed activity.</li> <li>5.5 Equipment and outfits appropriate in applying safety measures.</li> <li>5.6 Relevant manuals, standards and reference material.</li> </ul>
6. Methods of assessment	<p>Assessment methods may include but not limited to :</p> <ul style="list-style-type: none"> <li>6.1 Performance Test / Demonstration.</li> <li>6.2 Oral Questioning.</li> <li>6.3 Written Test.</li> <li>6.4 Portfolio</li> </ul>
7. Context of assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module.</li> </ul>

	7.2 Assessment should be done by NSDA certified/ nominated assessor
<b>Accreditation Requirements</b> Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

<b>Unit Code &amp; Title:</b>	<b>OU-FUR-WWMO-05-L2-V1: Operate Mortise Machine</b>
<b>Unit Descriptor:</b>	This unit covers the knowledge, skills and attitudes required to operate mortise machine. It includes of preparing mortise machine for operation, cutting work piece and maintaining mortise machine.
<b>Nominal Hours:</b>	<b>60</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> words are detailed in the Range of Variables.
1. Prepare mortise machine for operation	1.1 <b><u>Personal Protective Equipment (PPE)</u></b> are selected and worn as required. 1.2 Machine are checked and adjusted as required. 1.3 <b><u>Tools</u></b> and <b><u>materials</u></b> are selected and collected as per job requirements. 1.4 Tools and materials are prepared as per job requirement. 1.5 Lubrication of machine is checked and applied as per manufacture's manual.
2. Cut work piece	2.1 Drawings are interpreted. 2.2 <b><u>Quality of wood</u></b> is checked as per job requirements. 2.3 Specific points for hole and grooves on work pieces are marked as per specification mentioned in drawing. 2.4 Sharpness of chisel is checked conforming to the work requirement. 2.5 <b><u>Mortise machine</u></b> is <b><u>Setup</u></b> and operated as per machine operation manual and appropriate to the shape and size of work piece. 2.6 <b><u>Faults</u></b> are detected and rectified as per requirement
3. Maintain mortise machine	3.1 Machines and work area are cleaned according to workplace procedures after completion of work. 3.2 Lubricants are applied into the moving parts of machine as per manufacture's manual. 3.3 Cutting tools are checked and sent for sharpening and maintenance as per the workplace procedure. 3.4 Tools and equipment's are stored in specified location according to workplace procedure. 3.5 Waste materials are disposed as per workplace procedures.
<b>Range of Variable</b>	
<b>Variable</b>	<b>Range (May include but is not limited to):</b>
1. Personal Protective Equipment (PPE)	1.1 Mask. 1.2 Ear defender. 1.3 Apron. 1.4 Eye Protector.

	<ul style="list-style-type: none"> <li>1.5 Safety shoes.</li> <li>1.6 Hand gloves.</li> <li>1.7 Helmet.</li> </ul>
2. Tools	<ul style="list-style-type: none"> <li>2.1 Screw drivers.</li> <li>2.2 Allen key.</li> <li>2.3 Oil can.</li> <li>2.4 Open ended wrench set.</li> <li>2.5 Try square.</li> <li>2.6 Slide wrench.</li> <li>2.7 Mortise drill.</li> </ul>
3. Materials	<ul style="list-style-type: none"> <li>3.1 Different type of wood pieces.</li> <li>3.2 Particle plain board.</li> <li>3.3 PVC board</li> <li>3.4 Particle veneer board.</li> <li>3.5 MFC Board</li> <li>3.6 MDF board</li> <li>3.7 Plywood</li> <li>3.8 Lubricating oil</li> </ul>
4. Quality of wood	<ul style="list-style-type: none"> <li>4.1 Seasoned wood pieces.</li> <li>4.2 Wood pieces are free from buds and cracks.</li> <li>4.3 One directional wood grain.</li> <li>4.4 Moisture content of wood 8~12%.</li> </ul>
5. Mortise machine	<ul style="list-style-type: none"> <li>5.1 Pneumatic (Auto) mortise.</li> <li>5.2 Manual mortise.</li> </ul>
6. Set up	<ul style="list-style-type: none"> <li>6.1 Safety guards.</li> <li>6.2 Table.</li> <li>6.3 Set the chisel bit/cutter.</li> <li>6.4 Set platform/table as per required angle.</li> <li>6.5 Guide.</li> </ul>
7. Faults	<ul style="list-style-type: none"> <li>7.1 Belt tearing.</li> <li>7.2 Machine jam due to overload.</li> <li>7.3 Bearing failure</li> <li>7.4 Damage of chisel due to nail on wood.</li> <li>7.5 Loose chisel due to poor fitting.</li> <li>7.6 Power switch is not working</li> <li>7.7 Mortise chisel breaking</li> </ul>
<p><b>Evidence Guide:</b>  The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate must be able to:</p> <ol style="list-style-type: none"> <li>1.1 followed safety procedures throughout the work.</li> <li>1.2 checked the work piece for cracks, nails, and buds and damaged area.</li> <li>1.3 set up and operated mortise machine</li> <li>1.4 cut work pieces without damaging cutting tools and work piece.</li> <li>1.5 cleaned &amp; lubricated machine as per user manuals.</li> </ol>
2. Underpinning Knowledge	<ol style="list-style-type: none"> <li>2.1 Different parts of mortise machine and their functions.</li> <li>2.2 Uses &amp; limitations of mortise machine.</li> <li>2.3 Types of mortise chisel bits and their uses.</li> <li>2.4 Mortising process &amp; techniques.</li> <li>2.5 Safety procedure while using mortise machine.</li> </ol>
3. Underpinning Skills	<ol style="list-style-type: none"> <li>3.1 Checking of machine lubrication.</li> <li>3.2 Checking mortising cutter sharpness.</li> <li>3.3 Setting machine component as per work piece requirement.</li> <li>3.4 Adjusting fence, guard and stopper of the mortise machine.</li> <li>3.5 Interpreting drawing and specification.</li> <li>3.6 Operation of circular saw.</li> <li>3.7 Cleaning and lubricating of machine.</li> <li>3.8 Operating and maintaining the machine.</li> </ol>
4. Required Attitude	<ol style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety.</li> <li>4.2 Environmental concerns.</li> <li>4.3 Promptness in carrying out activities.</li> <li>4.4 Tidiness and timeliness.</li> <li>4.5 Respect for rights of peers and seniors in workplace.</li> <li>4.6 Proper attention required during work.</li> <li>4.7 Eagerness to learn.</li> </ol>
5. Resource Implications	<p>The following resources MUST be provided:</p> <ol style="list-style-type: none"> <li>5.1 Workplace.</li> <li>5.2 Work place procedure.</li> <li>5.3 Tools, equipment and facilities appropriate to activity.</li> <li>5.4 Materials relevant to the proposed activity.</li> <li>5.5 Equipment and outfits appropriate in applying safety measures.</li> <li>5.6 Relevant manuals, codes, standards and reference material.</li> </ol>
6. Methods of Assessment	<p>Assessment methods may include but not limited to :</p> <ol style="list-style-type: none"> <li>6.1 Performance Test / Demonstration.</li> <li>6.2 Oral Questioning.</li> <li>6.3 Written Test.</li> <li>6.4 Portfolio</li> </ol>
Context of assessment	<ol style="list-style-type: none"> <li>7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module.</li> </ol>

	7.2 Assessment should be done by NSDA certified/ nominated assessor
<b>Accreditation Requirements</b> Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.	

<b>Unit Code &amp; Title</b>	<b>OU-FUR-WWMO-06-L2-V1: Operate Jigsaw Machine</b>
<b>Unit Descriptor</b>	This unit covers the knowledge, skills and attitudes required to operate Jigsaw machine. It includes of preparing jigsaw machine for operation, cutting work piece and maintaining jigsaw machine.
<b>Nominal Hours</b>	<b>50</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; underlined</u></b> words are detailed in the Range of Variables.
1. Prepare jigsaw machine for operation	<p>1.1 <b><u>Personal Protective Equipment(PPE)</u></b> are selected and worn as required.</p> <p>1.2 Machine are checked and adjusted as per standard.</p> <p>1.3 <b><u>Tools</u></b> and <b><u>materials</u></b> are selected and collected as per job requirements.</p> <p>1.4 Tools and materials are prepared as per job requirement.</p> <p>1.5 Lubrication of machine is checked and applied as per manufacture's manual.</p> <p>1.6 Drawings are interpreted.</p> <p>1.7 <b><u>Quality of wood</u></b> is checked as per job requirements.</p>
2. Cut work piece	<p>2.1 Drawings are interpreted.</p> <p>2.2 Quality of wood is checked as per job requirements.</p> <p>2.3 Design is drawn and marked to cut the work pieces as required</p> <p>2.4 Setup of jigsaw blade is done as per machine operation manual and appropriate to the shape and size of work piece.</p> <p>2.5 Jigsaw machine is operated as per standard procedure.</p> <p>2.6 <b><u>Faults</u></b> are detected and rectified for smooth operations.</p>
3. Maintain jigsaw machine	<p>3.1 Machines and work area are cleaned according to workplace procedures after completion of work.</p> <p>3.2 Lubricants are applied into the moving parts of machine as per manufacture's manual.</p> <p>3.3 Cutting tools are checked and sent for sharpening and maintenance as per the workplace procedure.</p> <p>3.4 Tools and equipment's are stored in specified location according to workplace procedure.</p> <p>3.5 Waste materials are disposed as per workplace procedures.</p>
<b>Range of Variable</b>	
<b>Variable</b>	<b>Range (May include but is not limited to):</b>
1. PPE	<p>1.1 Mask.</p> <p>1.2 Ear defender.</p> <p>1.3 Apron.</p> <p>1.4 Eye protector.</p> <p>1.5 Safety shoes.</p>



	1.6 Hand gloves. 1.7 Helmet.
2. Tools	2.1 Screw drivers. 2.2 Oil can. 2.3 Open ended wrench set. 2.4 Slide wrench.
3. Materials	3.1 Different type of wood pieces. 3.2 Particle plain board. 3.3 Wooden venire board. 3.4 Plastic board. 3.5 MDF board 3.6 MFC board
4. Quality of wood	4.1 Seasoned wood pieces. 4.2 Wood pieces are free from buds and cracks. 4.3 One directional wood grain. 4.4 Moisture content of wood 8~12%.
5. Faults	6.1 Breaking of blade 6.2 Loose blade due to poor fitting. 6.3 Work piece damage
<b>Evidence Guide:</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment requires evidence that the candidate must be able to: 1.1 followed safety procedures throughout the work. 1.2 checked the work piece for cracks, nails, buds and damaged area. 1.3 set up and operated jig saw without damaging cutting tools and work piece. 1.4 cleaned & lubricated machine as per user manuals.
2. Underpinning knowledge	2.1 Different parts of Jigsaw and their functions. 2.2 Uses & limitation of jigsaw machine. 2.3 Cutting process & techniques. 2.4 Safety procedure while using jigsaw machine.
3. Underpinning skills	3.1 Checking of machine lubrication. 3.2 Checking jigsaw cutter sharpness. 3.3 Setting machine component as per work piece requirement. 3.4 Adjusting fence, guard of the jigsaw. 3.5 Interpreting drawing and specification. 3.6 Operation of jigsaw 3.7 Operating and maintaining the machine.

4. Required attitude	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety.</li> <li>4.2 Environmental concerns.</li> <li>4.3 Promptness in carrying out activities.</li> <li>4.4 Tidiness and timeliness.</li> <li>4.5 Respect for rights of peers and seniors in workplace.</li> <li>4.6 Proper attention required during work.</li> <li>4.7 Eagerness to learn.</li> </ul>
5. Resource implications	<p>The following resources <b>MUST</b> be provided:</p> <ul style="list-style-type: none"> <li>5.1 Workplace.</li> <li>5.2 Workplace procedure.</li> <li>5.3 Tools, equipment and facilities appropriate to activity.</li> <li>5.4 Materials relevant to the proposed activity.</li> <li>5.5 Equipment and outfits appropriate in applying safety measures.</li> <li>5.6 Relevant manuals, codes, standards and reference material.</li> </ul>
6. Methods of assessment	<p>Assessment methods may include but not limited:</p> <ul style="list-style-type: none"> <li>6.1 Performance Test / Demonstration.</li> <li>6.2 Oral Questioning.</li> <li>6.3 Written Test.</li> <li>6.4 Portfolio</li> </ul>
Context of assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment must be done in a training center or in an actual or simulated workplace after completion of the training module.</li> <li>7.2 Assessment should be done by NSDA certified/nominated assessor</li> </ul>
<p><b>Accreditation Requirements</b></p> <p>Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p>	

## **References**

1. Competency Standard on CNC Machine Operation (Wood) of NSDA
2. Competency Standard on Wood Working Machine Operation of BTEB

## Development of Competency Standard

The Competency Standards for National Skills Certificate Level-2 in **Wood Working Machine Operation** is Developed by NSDA on 9 September, 2024.

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## Validation of Competency Standard

The Competency Standards for National Skills Certificate Level-2 in **Wood Working Machine Operation** is Validated by NSDA on 11 September, 2024

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