

COMPETENCY STANDARD FOR CARPENTRY

Level: 2

(Furniture Sector)

Competency Standard Code: CS-FS-Crp-L2-EN-V1



National Skills Development Authority Prime Minister's Office Government of the People's Republic of Bangladesh

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This Competency Standard for **Carpentry** 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 validated 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. **Carpentry** 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 Council (ISC), 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 (NSQF) under Bangladesh National Qualification Framework (BNQF) 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 guides

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, Level-2 in Carpentry of Furniture Sector

Level Descriptors of NSQF (BNQF 1-6)

Level & Job	Knowledge Domain	Skills Domain	Responsibility Domain
classification	Comprehensive actual and	Specialized and wider range of	
6-Mid-Level Manager/ Sub Assistant Engineer	theoretical knowledge within a specific work or study area with an awareness of the validity and limits of that knowledge, able to analyse, 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
NSDA	National Skills Development Authority
NSQF	National Skills Qualifications 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
ISO	International Organization for Standardization
MSDS	Material Safety Data Sheet
OSH	Occupational Safety and Health
PPE	Personal Protective Equipment
SOP	Standard Operating Procedures

Approved by

---th Executive Committee (EC) Meeting of NSDA

Held on -----

Deputy Director (Admin) and Officer of Secretarial Duties for EC meeting National Skills Development Authority

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Development of Competency Standard

Competency Standards for National Skill Certificate, Level- 2, in Carpentry of Furniture Sector

Course Structure

SL No	Unit code and Title UOC Level			
Generic Units of Competencies				
1.	GU-08-L2-V1	Work in a Team Environment	2	20
Sub '	Total			20
Secto	or Specific Units of Co	mpetencies		
2.	SU-FUR-04-L2-V1	Work in the Furniture Sector	2	20
3.	SU-FUR-05-L2-V1	Participate in Environmentally Sustainable Work Practices	2	20
Sub Total				40
Occu	pation Specific Units	of Competencies		
4.	OU-FUR-Crp-07-L2-V1	Use Basic Power Tools	2	30
5.	OU-FUR-Crp-08-L2-V1	Make Wooden Joint by Power tools	2	40
6.	OU-FUR-Crp-09-L2-V1	Apply Laminated Sheets on Furniture by Hand	2	20
7.	OU-FUR-Crp-10-L2-V1	Make Advanced Wooden Joint by Hand	2	60
8.	OU-FUR-Crp-11-L2-V1	Make Wooden Joint Using Machine	2	30
9.	OU-FUR-Crp-12-L2-V1	Assemble Furniture Components	2	30
Sub Total			210	
Total Duration			270	

Units & Elements at Glance

Generic Units of Competencies

Code	Unit of competency	Elements of competency	Duration (hours)
GU-08-L2-V1	Work in a Team Environment	 Define team role and scope Identify individual role and responsibility Participate in team discussions Work as a team member 	20
	•	Total hours	20

Sector Specific Units of Competencies

Code	Unit of competency	Elements of competency	Duration (hours)
SU-CON-04-L2-V1	Work in the Furniture Sector	 Identify job roles and responsibilities Identify and observe OSH Plan work activities Work with others 	20
SU-CON-05-L2-V1	Participate in Environmentally Sustainable Work Practices	 Identify environmental practices Collaborate with co-workers Perform environmental awareness related to wood works 	20
		Total hours	40

Occupation Specific Units of Competencies

Code	Unit of	Elements of competency	Duration
	competency		(hours)
OU-FUR-Crp-07- L2-V1	Use Basic Wood Working Machines	 Prepare for work Prepare power tools Operate power tools Maintain power tools 	30
OU-FUR-Crp-08- L2-V1	Make Wooden Joint by Power Tools	 Prepare for work Prepare materials Join wood Clean and maintain tools and equipment 	40
OU-FUR-Crp-09- L2-V1	Apply Laminated Sheets on Furniture by Hand	 Prepare for work Prepare materials fit and finish laminates Maintain workplace 	20
OU-FUR-Crp-10- L3-V1	Make Advanced Wooden Joint by Hand	 Prepare for work Make wooden joint Maintain workplace 	60
OU-FUR-Crp-11- L3-V1	Make Wooden Joint Using Machine	 Prepare for work Make joint Maintain equipment and workplace 	30
OU-FUR-Crp-12- L2-V1	Assemble Furniture Components	 Plan and prepare for work Assemble furniture components Maintain workplace and equipment 	30
		Total Hours	210

Generic Units of Competencies

Unit Code and Title	GU-	08-L2-V1: Work in a Team Environment	
Unit Descriptor	 This unit covers the knowledge, skills and attitudes required work in a team environment. It specifically includes the task of defining team role and scop identifying individual role and responsibility, participating team discussions and working as a team member. 		
Nominal Hours	20 H	lours	
Elements of Competency	Bold	Performance Criteria Bold & Underlined terms are elaborated in the Range of Variables	
	1.1.	Role and objectives of the team are defined	
1. Define team role	1.2.	Team structure, responsibilities and reporting relations are	
and scope		identified from team discussions and other external sources	
2. Identify individual role and	2.1	Individual roles and responsibilities of <u>team members</u> are identified	
responsibility	2.2	Reporting relationships among team members are defined and clarified	
	2.3	Reporting relationships external to the team are defined and clarified	
3. Participate in team	3.1	Ideas related to team plans are contributed	
discussions	3.2	Recommendations for improving team work are put forward	
4. Work as a team	4.1	Effective forms of communication are used to interact with	
member		team members	
	4.2	Communication channels are followed	
	4.3	OHS practices are followed	
Range of Variables	<u>.</u>		
Variables	ariables Range (may include but not limited to):		
1. Team Members	1.1	Coach/mentor	
	1.2	Supervisor/Manager	
	1.3	Peers/Colleagues	
	1.4	Employee representative	
Evidence Guide			
		ic, valid, sufficient, reliable, consistent, recent and meet all	
requirements of current v	version	n of the Unit of Competency	
	Asse	ssment required evidence that the candidate:	
1. Critical aspects of	1.1	demonstrated knowledge in working in a team environment.	
 Critical aspects of competency 	1.1 1.2		

2. Underpinning	2.1	Team structure, role and responsibility
	2.2	Individual members' roles and responsibilities
	2.3	Communication flow and reporting structures
knowledge	2.4	Team planning
Kilowieuge	2.5	Interpersonal communication skills
	2.6	Team meeting procedures
	2.7	OHS practices
	3.1	Identifying the role and responsibility of the team
	3.2	Identifying roles and responsibilities of individual
3. Underpinning skills		members
	3.3	Participating in team discussions
	3.4	Working as a team member
	4.1	Commitment to occupational health and safety
	4.2	Sincere and honest to duties
	4.3	Promptness in carrying out activities
4 Decurring decidende	4.4	Environmental concerns
4. Required attitude	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
	5.1	workplace (actual or simulated)
	5.2	Pens
5. Resource	5.3	Telephone
implications	5.4	Computer
_	5.5	Writing materials
	5.6	Online communication
	Com	petency should be assessed by:
6. Methods of	6.1	Written test
assessment	6.2	Demonstration
	6.3	Oral questioning
	7.1	Competency assessment must be done in NSDA accredited
7. Context of		assessment centre
assessment	7.2	Assessment should be done by a NSDA certified/nominated
		assessor

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. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

The Sector Specific Competencies

Unit Code and Title	SU-FUR-04-L2-V1: Work in the Furniture Sector	
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to work in the furniture sector. It specifically includes the tasks of identifying job roles and responsibilities, identifying and observing OSH, planning work activities and working with others.	
Nominal Hours	20 Hours	
Elements of Competency	Performance Criteria Bold & Underlined terms are elaborated in the Range of Variables	
1. Identify job roles and responsibilities	1.1 Job roles and responsibilities are identified.1.2 Relationships within the furniture industry employees are identified.	
2. Identify and observe OSH	 2.1 <u>Occupational Safety and Health (OSH)</u> is identified and observed. 2.2 Safe work practices are followed when using equipment in the work environment. 	
3. Plan work activities	3.1 Common goals, objectives and tasks are identified and clarified with appropriate persons.3.2 Individual tasks are determined and agreed on in accordance with workplace environment.	
4. Work with others	 4.1 <u>Effective interpersonal skills</u> are applied to interact with others and to contribute activities and objectives. 4.2 Assigned tasks are performed in accordance with job requirements, specifications and workplace environment. 4.3 Work requirements are confirmed with colleagues. 	
Range of Variables		
Variable	Range (may include but not limited to):	
1. Occupational Safety and Health (OSH)	 1.1 Personal Protective Equipment (PPE): 1.1.1 Apron 1.1.2 Helmet 1.1.3 Hand gloves 1.1.4 Goggles 1.1.5 Safety shoes 1.1.6 Mask 1.1.7 Face Shield 	

	1.1.8 Ear-protector
	2.1 Basic listening and speaking skills
2. Effective	2.2 Use of terminology and jargon
interpersonal skills	2.3 Communicating and receiving feedback
	2.4 Interpretation of instructions

Evidence Guide

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: 1.1 identified job roles and responsibilities 1.2 demonstrated working in the furniture sector.
2. Underpinning knowledge	2.1 Safety rules and procedure.2.2 Working with others.2.3 Communicate with others
3. Underpinning skills	 3.1 Reading skills required to interpret work instruction and numerical skills. 3.2 Communicating skills. 3.3 Problem solving in emergency situation.
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 Environmental concerns. 4.5 Eagerness to learn. 4.6 Tidiness and timeliness. 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.

	7.1 Competency assessment must be done in NSDA accredited
7. Context of	assessment centre
assessment	7.2 Assessment should be done by a NSDA certified/nominated
	assessor

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Unit Code and Title	SU-FUR-06-L3-V1: Participate in Environmentally
Chit Coue and Title	Sustainable Work Practices
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to participate in environmentally sustainable work practices. It specifically includes the tasks of identifying environmental practices, collaborating with co-workers and performing environmental awareness related to wood works.
Nominal Hours	20 Hours
Elements of Competency	Performance CriteriaBold & Underlinedterms are elaborated in the Range ofVariables
1. Identify environmental practices	1.1 Environmental practices in wood working workplace are identified.1.2 Environmental practices for wood working are practiced.
2. Collaborate with co-workers	 2.1 <u>Collaborative actions</u> and attitudes related to sustainable environmental practices are identified. 2.2 Collaborating with co-workers to deliver desired output is practiced as per industry requirements.
3. Perform environmental awareness related to wood works	 3.1 <u>Environmental issues</u> and concerns are identified and discussed. 3.2 Environmental issues and concerns are practiced following workplace requirements.
Range of Variables	
Variable	Range (may include but not limited to):
1. Collaborative actions	1.1 Working with others1.2 Understanding others1.3 Workmanship
2. Environmental issues	 2.1 Use of timber, hazardous materials 2.2 Waste disposal 2.3 Use of chemical related to furniture sector
Evidence Guide 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: 1.1 demonstrated work values related to environmentally sustainable practices 1.2 identified environmental issues.

	2.1 Safety requirements in the workplace.
2. Underpinning	2.2 Working with others.
knowledge	2.3 Environmental issues and concerns.
	2.4 Collaborative actions.
	3.1 Reading skills required to interpret work instruction and
3. Underpinning skills	numerical skills.
	3.2 Collaborating with co-workers.
	3.3 Problem solving in emergency situation.
	4.1 Commitment to occupational safety and health.
	4.2 Promptness in carrying out activities.
	4.3 Sincere and honest to duties.
1 Dequined attitudes	4.4 Environmental concerns.
4. Required attitudes	4.5 Eagerness to learn.
	4.6 Tidiness and timeliness.
	4.7 Respect for rights of peers and seniors at workplace.
	4.8 Communication with peers and seniors at workplace.
	The following resources must be provided:
	5.1 workplace (actual or simulated)
5. Resource	5.2 tools, equipment and physical facilities appropriate to perform
implication	activities
	5.3 materials and consumables needed to perform activities.
	-
6. Methods of	Methods of assessment may include but not limited to:
	6.1 written test
assessment	6.2 demonstration
	6.3 oral questioning
	6.4 portfolio.
	7.1 Competency assessment must be done in NSDA accredited
7. Context of	assessment centre
assessment	7.2 Assessment should be done by a NSDA certified/nominated
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The Occupational Specific Competencies

Unit Code and Title	OU-FUR-Crp-07-L2-V1: Use Basic Wood Working Machines
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to use basic wood working machines. It specifically includes the tasks of preparing for work, preparing, applying and maintaining wood working machines.
Nominal Hours	30 Hours
Elements of Competency	Performance CriteriaBold & Underlinedterms are elaborated in the Range ofVariables
1. Prepare for work	 1.1 Occupational Safety and Health (OSH) requirements, are observed\. 1.2 Tasks are identified. 1.3 <u>wood working machines</u> are identified and selected in accordance with the task requirements.
2. Prepare wood working machines	2.1 Basic wood working machines are checked for proper operation and safety.2.2 Unsafe or faulty tools are identified and marked for repair
3. Operate wood working machines	 3.1 Basic wood working machines are operated according to tasks undertaken. 3.2 All safety procedures in using basic wood working machines are ensured and maintained;
4. Maintain wood working machines	 4.1 Basic wood working machines are checked for usability; 4.2 Basic wood working machines are cleaned before and after using. 4.3 Basic wood working machines are maintained using relevant lubrications. 4.4 Maintenance work of wood working machines are performed;
Range of Variables	
Variable	Range (may include but not limited to:)
1. Basic wood working machines	 1.1 Bench Drill Machine 1.2 Circular saw 1.3 Jointer planner machine 1.4 Thickness planner machine 1.5 Mortise machine
Evidence Guide	1
	authentic, valid, sufficient, reliable, consistent, recent and meet all t version of the Unit of Competency.

	Assessment required evidences that the candidate:
1. Critical aspects of competency	1.1 demonstrated safe work practices
	1.2 used wood working machines as per standard requirements
	1.3 maintained wood working machines
	2.1 Safety requirements for wood working machines
2. Underpinning knowledge	2.2 Function, operation, common faults.
	2.3 Processes, operations, systems.
	2.4 Maintenance of wood working machines
	3.1 Reading skills required to interpret work instruction and
2 Undersigning	numerical skills.
3. Underpinning skills	3.2 Using wood working machines
SKIIIS	3.3 Maintaining wood working machines
	3.4 Solving problems in emergency situation.
	4.1 Commitment to occupational safety and health.
	4.2 Promptness in carrying out activities.
	4.3 Sincere and honest to duties.
4. Required attitudes	4.4 Eagerness to learn.
4. Required autiludes	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.
	The following resources must be provided:
5. Resource	5.1 workplace (actual or simulated)
implication	5.2 tools, equipment and physical facilities appropriate to perform
mpheation	activities
	5.3 materials, consumables to perform activities.
	Methods of assessment may include but not limited to:
(Mathada af	6.1 written test
6. Methods of assessment	6.2 demonstration
	6.3 oral questioning
	6.4 portfolio.
	7.1 Competency assessment must be done in NSDA accredited
7. Contexts of	assessment centre
assessment	7.2 Assessment should be done by a NSDA certified/nominated
	assessor

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Unit Code and Title	OU-FUR-Crp-08-L2-V1: Make Wooden Joint by Machines
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to make wooden joint by machines. It specifically includes the tasks of preparing for work, preparing materials, jointing wood and maintaining tools and equipment.
Nominal Hours	40 Hours
Elements of Competency	Performance Criteria Bold & Underlined terms are elaborated in the Range of Variables
1. Prepare for work	 1.1 Occupational Safety and Health (OSH) requirements, are observed 1.2 Work instructions are used 1.3 Work sequence is planned in accordance with job requirement. 1.4 Procedures are determined for checking quality at each stage of the process. 1.5 Suitable work area is selected for the task. 1.6 <u>Hand tools</u> are identified and checked for safe and effective operation.
2. Prepare materials	 2.1 Woods are selected and checked for <u>defects</u> following work instruction. 2.2 Suitable joining processes are selected and prepared. 2.3 Woods are prepared for joining and laid out.
3. Join wood	 3.1 Woods are measured, marked and cut size. 3.2 <u>Machines</u> are used in accordance with workplace procedures. 3.3 Adhesives are applied as per standard; 3.4 Final trim and finishing are completed to specifications. 3.5 Work is checked against required quality standards.
4. Clean and maintain tools and equipment	 4.1 Work area is cleaned in accordance with workplace procedures. 4.2 Tools and equipment are cleaned and maintained. 4.3 Faulty equipment is tagged and reported in accordance with workplace practices. 4.4 Off-cuts and unused materials are collected and stored for reuse or disposal following workplace procedures. 4.5 Waste and <u>scrap materials</u> are dealt with following workplace procedures.
Range of Variables	
Variable	Range (may include but not limited to:)
1. Tools	1.1 Measuring tapes

	1.2 Hammers
	1.3 Mallets
	1.4 Tri-Squares
	1.5 Bevels squares
	1.6 Dowel jigs
	1.7 Clamps
	2.1 Bench Drill Machine
2. Machines	2.2 Circular saw
	2.3 Jointer planner machine
	2.4 Thickness planner machine
	2.5 Mortise machine
	3.1 Off cut wood
3. Scrap materials	3.2 Adhesives
Ĩ	3.3 Abrasives and cleaning materials
Evidence Guide	
The evidence must be	e authentic, valid, sufficient, reliable, consistent, recent and meet all
	it version of the Unit of Competency.
requirements of curren	
	Assessment required evidences that the candidate:
	1.1 applied safe operations required for equipment, products and
1. Critical aspects of	materials
competency	1.2 followed work instructions, operating procedures and
r r r s	inspection practices
	1.3 Performed joining works using machines
	1.4 minimized wastage of resources.
	2.1 Types, characteristics (including cupping, expansion, twisting,
	bowing, spring and grain direction), uses and limitations of
	woods.
2. Underpinning	2.2 Interpretation of furniture design.
knowledge	
	2.3 Joining techniques and their effects on woods.
	2.4 Use of hand tools, machines and materials
	2.5 Workflow in relation to joining works.
	3.1 Using tools, machines and materials.
3. Underpinning	3.2 Marking joining line and cutting.
skills	3.3 Joining wood.
	3.4 Using adhesive and fastener.
,	

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, consumables 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. Contexts of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre7.2 Assessment should be done by a 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 NSQF/BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA

Unit Code and Title	OU-FUR-Crp-09-L2-V1: Apply Laminated Sheets on
	Furniture by Hand
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to
	apply laminated sheets on furniture by hand. It specifically includes
	the tasks of preparing for work and materials, fitting and finishing
	laminates and maintaining equipment.
Nominal Hours	20 Hours
Elements of	Performance Criteria
Competency	<u>Bold & Underlined</u> terms are elaborated in the Range of
competency	Variables
	1.1 Occupational Safety and Health (OSH) requirements, are
	observed throughout the work.
	1.2 Work instructions are used to determine job requirements
	1.3 Application sequence is planned in accordance with job
1. Prepare for work	requirement.
1. Trepare for work	1.4 Procedures are determined for checking quality at each stage
	of the process.
	1.5 Work area is selected for the task.
	1.6 Tools and equipment are identified and checked for safe and
	effective operation.
	2.1 Surfaces are prepared for laminating;
	2.2 <u>Materials</u> are selected and checked;
2. Prepare materials	2.3 Laminates are prepared for application and laid out;
	2.4 Joining processes are selected and prepared as per job
	requirement;
3. fit and finish	3.1 Tools and equipment are used;
	3.2 Laminates are measured, marked and cut to size.
	3.3 Adhesives are applied as per standard;
laminates	3.4 Laminates are rolled hammered as per work procedure;
	3.5 Final trim and finishing are completed;
	3.6 Work is checked against required quality standards;
4. Maintain	4.1 Work area is cleaned;
	4.2 Tools and equipment are cleaned
	4.3 Faulty equipment is tagged and reported in accordance with
	workplace practices.
workplace	4.4 Off-cuts and unused materials are collected and stored for re-
	use or disposal following workplace procedures.
	4.5 Waste and scrap materials are dealt with following workplace
	procedures.
Range of Variables	
Variable	Range (may include but not limited to:)
.	

1.1 Wood 1.2 Particle board 1.3 Wood tex 1.4 Medium Density Fibre (MDF) Board 1.5 High Density Fibre (HDF) Board 1.6 Adhesives and cleaning materials 1.7 Formica 1.8 Veneer board 1.9 Lamination paper 1.10 Veneer strip 2.1 Pencil 2.2 Measuring tapes 2.3 Tri-Squares 2.4 T square 2.5 Hand saws 2.6 Wooden files 2.7 Laminate trimmers and cutters 2.8 Adhesive spray gun, 2.9 Brushes 2.10 Scrapers 2.11 Dryer Evidence Guide The evidence must be aut+entic, valid, sufficient, reliable, consistent, recent and meet all requirements of current v=vion of the Unit of Competency. Asses==mt required evidences that the candidate: 1.1 applied safe handling requirements for equipment, products and
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requirements of current version of the Unit of Competency. Assessment required evidences that the candidate: 1.1 applied safe handling requirements for equipment, products and
1.1 applied safe handling requirements for equipment, products and
1.1 applied safe handling requirements for equipment, products and
materials,
1.2 followed work instructions, operating procedures and
inspection practices to:
1.2.1 minimize the risk of injury to self or others
1.2.2 prevent damage to goods, equipment and products
1.2.3 maintain required work output and product quality
1. Critical aspects of 1.3 applied and finished laminates to at least three (3) different
competency surfaces, including at least two (2) requiring laminate edging
and with at least two (2) laminate joints in one or more surfaces
1.4 applied adhesive using three (3) different methods – spray,
brush and scraper
1.5 used mathematical ideas and techniques to correctly complete
measurements, calculate area and estimate material
requirements
1.6 minimize wastage of resources, including materials, time and
money

	1.7 work with others and in a team by recognizing dependencies and using cooperative approaches to optimize work flow and productivity.
1. Underpinning knowledge	1.1 Types, characteristics, uses and limitations of laminates.1.2 Interpretation of furniture design.1.3 Preparation of drawing1.4 Procedure of fit and finish laminates
2. Underpinning skills	2.1 Using tools, equipment and materials.2.2 Marking laminating line and cutting.2.3 Laminating sheets.2.4 Using adhesive and fastener.
3. Required attitudes	 3.1 Commitment to occupational safety and health. 3.2 Promptness in carrying out activities. 3.3 Sincere and honest to duties. 3.4 Eagerness to learn. 3.5 Tidiness and timeliness. 3.6 Environmental concerns. 3.7 Respect for rights of peers and seniors at workplace. 3.8 Communication with peers and seniors at workplace.
4. Resource implication	 The following resources must be provided: 4.1 workplace (actual or simulated) 4.2 tools, equipment and physical facilities appropriate to perform activities 4.3 materials, consumables to perform activities.
5. Methods of assessment	Methods of assessment may include but not limited to: 5.1 written test 5.2 demonstration 5.3 oral questioning 5.4 portfolio.
6. Contexts of assessment	 6.1 Competency assessment must be done in NSDA accredited assessment centre 6.2 Assessment should be done by a NSDA certified/nominated assessor
Accreditation Requ	iromonto

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. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA

Unit Code and Title	OU-FUR-Crp-10-L3-V1: Make Advanced Wooden Joint by
	Hand
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to make advanced wooden joint by hand. It specifically includes the tasks of preparing for work, making and finishing joint, and maintaining equipment.
Nominal Hours	60 Hours
Elements of Competency	Performance Criteria Bold & Underlined terms are elaborated in the Range of Variables
1. Prepare for work	 1.1 Occupational Safety and Health (OSH) requirements, are observed throughout the work. 1.2 Tools and materials are identified and checked for safe and effective operation. 1.3 Product purpose and joint type are identified from workplace documentation. 1.4 Tools, adhesives and fasteners are selected to match the joint type.
2. Make wooden joint	 2.1 Cutting and joining lines are marked out to suit joint type. 2.2 Measurements and calculations are checked for accuracy to ensure quality outcomes. 2.3 <u>Wood</u> is joined in accordance with job requirements. 2.4 Fasteners and adhesives are used to make joints firm as required. 2.5 Finished joint is checked against <u>quality requirements.</u>
3. Maintain workplace	 3.1 Unused materials are stored or recycled as required. 3.2 Tools and equipment are cleaned and stored; 3.3 Work area is cleaned and rubbish disposed as per workplace procedures. 3.4 Workplace documentation and reports are completed.
Range of Variables	
Variable	Range (may include but not limited to:)
1. Joints	 1.1 Two pin tenon and mortise joint 1.2 Secret miter dovetail joint 1.3 Finger joint 1.4 Scurf joint 1.5 Half-Lap dovetail 1.6 Secret miter 1.7 Glass panel joint

	2.1 Test
2. Wood	2.1 Teak
	2.2 Garjon
	2.3 Mahogany
	2.4 Mango
	2.5 Gamari
	2.6 Korai 2.7 Oak
	2.7 Oak2.8 Teak Chambul
	2.9 Chapalish2.10 Pine wood
	2.10 Phile wood 2.11 Beech
	3.1 Alignment
2 Quality	3.2 Neatness
3. Quality requirements	3.3 Tightness
requirements	3.4 Firmness and acceptable tolerances
	4.1 Chisels
4. Tools and equipment	4.1 Chisels 4.2 Mallets
	4.2 Martise gauges
	4.4 Vernier calipers
	4.5 Vices
	4.6 Dovetail saws
	4.7 Tenon saws
	4.8 Planner
	4.9 Files
	4.10 Hand drills
	4.11 Tri-Square
	4.12 Bavel square
	4.13 Hammer
Evidence Guide	1
The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all	
requirements of current version of the Unit of Competency.	
	Assessment required evidences that the candidate:
1. Critical aspects of competency	1.1 Selected and collected tools, materials
	1.2 Performed wooden joint
	1.3 Checked quality of joint
	1.4 Maintain workplace
	2.1 Workflow in relation to the furniture items being made or
2. Underpinning knowledge	repaired.
	2.2 Types of advanced wooden joint
	2.3 Procedure of advanced wooden joint
	2.4 Checking procedure and quality of joint
L	2.1 Cheeking procedure and quanty of joint

3.1 Ability to marking and cutting for wooden joints3.2 Ability to making complex joints3.3 Ability to checking quality of joints				
 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. 				
 The following resources must be provided: 5.1 workplace (actual or simulated) 5.2 tools, equipment and physical facilities appropriate to perforactivities 5.3 materials, consumables to perform activities. 				
Methods of assessment may include but not limited to: 6.1 written test 6.2 demonstration 6.3 oral questioning 6.4 portfolio.				
 7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor 				

Accreditation Requirements

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Unit Code and Title	OU-FUR-Crp-11-L3-V1: Make Wooden Joint Using Machine			
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to make wooden joint using machine. It specifically includes the tasks of preparing for work, making joint and finishing operation and maintaining equipment.			
Nominal Hours	30 Hours			
Elements of Competency	Performance Criteria Bold & Underlined terms are elaborated in the Range of Variables			
1. Prepare for work	 1.1 Occupational Safety and Health (OSH) requirements, are observed throughout the work. 1.2 Tools, materials are identified and checked for safe and effective operation 1.3 Machines are identified and checked for safe and effective operation 1.4 Product purpose and joint type are identified from workplace documentation. 1.5 Hardware and fasteners are selected to match the joint 			
1. Make joint	 1.1 Cutting and joining lines are marked out 1.2 Measurements and calculations are checked for accuracy 1.3 Woods are prepared for making joint using <u>machines</u> 1.4 <u>Woods</u> is joined in accordance with workplace requirements. 1.5 Hardware and adhesives are used to make joints firm as required. 1.6 Finished joint is checked; 			
 Maintain equipment and workplace 	 2.1 Unused materials are stored or recycled as required. 2.2 Work area is cleaned and rubbish disposed of in accordance with workplace guidelines. 2.3 Workplace documentation and / or reports are completed as required. 			
Range of Variables				
Variable	Range (may include but not limited to:)			
1. Joints	 1.1 Two pin tenon and mortise joint 1.2 Secret miter dovetail joint 1.3 Finger joint 1.4 Scurf joint 1.5 Half-Lap dovetail 1.6 Secret miter 1.7 Glass panel joint 			

	2.1	Bench Drill Machine				
	2.2	Circular saw				
2. Machines	2.3	Jointer planner machine				
	2.4	L				
	2.5	.5 Mortise machine				
	3.1	Teak				
	3.2	Garjon				
	3.3	3 Mahogany				
	3.4	Mango				
	3.5	Gamari				
3. Woods	3.6	Korai				
	3.7	Oak				
	3.8	Teak Chambul				
	3.9	Chapalish				
	3.10	Pine				
	3.11	Beech				
Evidence Guide						
		ic, valid, sufficient, reliable, consistent, recent and meet all n of the Unit of Competency.				
	Asses	sment required evidences that the candidate:				
	1.1 ar	oplied safe handling requirements for equipment, products and				
	-	aterials,				
1. Critical aspects of	1.2 made timber joints using machines					
competency	1.3 minimized wastage of resources, including materials, time and					
	money					
	1.4 worked with others as a team member					
	2.1 Safety and precautions of machinery					
2. Underpinning	2.1 Safety and precautions of machinery 2.2 Workflow of joint preparation					
knowledge	2.3 Procedure of joints					
Kilowiedge	2.4 Maintenances machines					
	3.1 W	orking with as a team member.				
	3.2 Using pre-checking and inspection techniques to anticipate					
3. Underpinning	installation problems, avoid reworking and avoid wastage.					
skills		electing related machines to perform the task.				
	3.4 Using selected machine to make wooden joint as per design.					

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, consumables 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. Contexts of assessment	 7.1 Competency assessment must be done in NSDA accredited assessment centre 7.2 Assessment should be done by a NSDA certified/nominated assessor

Accreditation Requirements

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Unit Code and Title	OU-FUR-Crp-12-L2-V1: Assemble Furniture Components			
Unit Descriptor	This unit covers the knowledge, skills and attitudes required to assemble furniture components. It specifically includes the tasks of planning and preparing for work, assembling furniture components and finishing assembly and store equipment.			
Nominal Hours	30 Hours			
Elements of Competency	Performance CriteriaBold & Underlinedterms are elaborated in the Range ofVariables			
1. Plan and prepare for work	 1.1 Occupational Safety and Health (OSH) requirements, are observed 1.2 Assemble design and critical production specifications are read and interpreted 1.3 Quality assurance requirements are recognised and adhered 1.4 Tools, equipment and materials are selected with job requirements. 1.5 Hardware and accessories are identified. 			
2. Assemble furniture components	 2.1 Tools, equipment and materials are laid out to assemble <u>furniture components.</u> 2.2 Components are checked against specification prior to assembly and out of specification items are rejected. 2.3 Components are assembled and checked against specification 2.4 Components are fitted. 2.5 Hardware and decorative accessories are applied to specification. 2.6 Product quality is checked against plans at identified checkpoints. 			
3. Maintain workplace and equipment	 3.1 Unused materials are stored or recycled as required. 3.2 Tools and equipment are cleaned and stored. 3.3 Faulty equipment is tagged and reported in accordance with workplace practices. 3.4 Workplace documentation and reports are completed. 			
Range of Variables				
Variable	Range (may include but not limited to:)			
1. Furniture components1.1Shutter1.2Head board1.3Foot board1.4Side rail1.5Top				

	1.6 Bottom
	1.7 Side
	1.8 Partition
	1.9 Self
	1.10 Drawer
	1.11 Leg
	1.12 Back
	1.13 Panel
Evidence Guide	
	authentic, valid, sufficient, reliable, consistent, recent and meet all version of the Unit of Competency.
	Assessment required evidences that the candidate:
1. Critical aspects of competency	1.1 interpreted work order and locate relevant information1.2 applied safe handling requirements for equipment, products and materials
competency	 1.3 minimized wastage of resources, including materials, time and money 1.4 worked with others as a team member
	1.4 worked with others as a team member
2. Underpinning	2.1 Assemble method of furniture components.
knowledge	2.2 Workflow in relation to furniture production.
	 3.1 Collect and organize information related to work orders, basic plans and safety procedures. 3.2 Working with others as a team member 3.3 Using mathematical ideas and techniques to correctly
3. Underpinning	complete measurements and calculate area
skills	3.4 Using pre-checking and inspection techniques
	3.5 Using the limited workplace technology related to the
	selection and application problems, avoid reworking and avoid wastage.
	4.1 Commitment to occupational safety and health.
	4.2 Promptness in carrying out activities.
	4.3 Sincere and honest to duties.
A Required attitudes	4.4 Eagerness to learn.
4. Required attitudes	4.5 Tidiness and timeliness.
	4.6 Environmental concerns.
	4.7 Respect for rights of peers and seniors at workplace.

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, consumables to perform activities.
Methods of assessment may include but not limited to:
6.1 written test
6.2 demonstration
6.3 oral questioning
6.4 portfolio.
7.1 Competency assessment must be done in NSDA accredited
assessment centre
7.2 Assessment should be done by a NSDA certified/nominated
assessor

Accreditation Requirements

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Development of Competency Standard

The Competency Standards for National Skills Certificate in Carpentry, Level-1, 2 and 3 is developed by NSDA on 20-24 November 2022.

List of Members

Sl No	Name and Address	Position in the committee		
1.	Md Joshim Uddin Gazi, Carpenter, US Embassy, Dhaka	Member		
2.	Nasir Uddin Ahamed, Supdt. Instructor, DAERS, Carpentry Shop, BUET, Dhaka Member			
3.	Md. Obaidul Haque, Ex GM (Production), OTOBI Ltd. Dhaka	Member		
4.	Md. Mohiuddin, Trainer Carpentry, UCEP TVET Insttute, Dhaka	Member		
5.	Md. Zillur Rahman Khan, Instructor (Civil), Dhaka Polytechnic Institute	Member		
6.	Md Abdur Razzaque, Specialist-1, NSDA, Dhaka	Member		

Validation of Competency Standard

The Competency Standards for National Skills Certificate in Carpentry, Level- 1, 2 and 3 is validated by NSDA 28-29 December 2022.

List of Members of SCVC

Sl No	Name and Address	Position in the committee	Signature
1.	A Karim Majumder, Managing Director, Nadia Furniture Ltd. Singair, Manikganj, Mobile: 01819-241830, Email: karim@nadiafurniture.com	Chairperson	
2.	Md Joshim Uddin Gazi, Carpenter, US Embassy, Dhaka, Mobile: 017126-59663, Email: joshimuddingazi@gmail.com	Member	
3.	Md. Obaidul Haque, Ex GM (Production), OTOBI Ltd. Dhaka, Mobile: 018181-20736, Email: obaidulhaque1967@gmail.com	Member	
4.	Md. Zillur Rahman Khan, Instructor (Civil), Dhaka Polytechnic Institute, Mobile: 01711- 158084, Email: zillurznf99@gmail.com	Member	
5.	Md Anowarul Haque, Head of Institute, Akhtar Furniture Academy, Singair, Manikganj, Mobile: 01799-949901, Email: afa.anowarul@gmail.com	Member	
6.	Kazi Md Monirul Islam, DGM (Production), Nadia Furniture, Singair, Manikganj, Mobile: 01871-006809, Email: kazimonir.nfl@gmail.com	Member	
7.	Md Abdur Razzaque, Specialist-1, NSDA, Dhaka, Mobile: 01742-734313, Email: razzaque159@gmail.com	Member	

Workshop Minutes

Government of the People's Republic of Bangladesh Prime Minister's Office National Skills Development Authority

Level: 10-11, Biniyog Bhaban, E-6 / B, Agargaon, Sher-E-Bangla Nagar Dhaka-1207, Bangladesh. Email: <u>ec@nsda.gov.bd</u> Website: <u>www.nsda.gov.bd</u>

Minutes of the Competency Standard Validation Workshop on "Carpentry, Level-2" Occupation.

Chairman	: Chairman, FSISC,
Date	: 28-29 December 2022
Time	: 9:30 am - 4:00 pm
Place	: ISC Conference Room, NSDA, Biniyog Bhaban, Agargaon, Dhaka-1207

The Chairman inaugurated the workshop by welcoming the expert participants attended in the workshop. He urges the participants to share their expert opinion to make the standard effective, job market responsive and updated one. During the day-long workshop, the competency standard of "Carpentry, Level-2" occupation was reviewed, modified and finalized in detail.

The following changes and modification were made to validate and finalize the competency standard.

Serial No.	Content of validation	Whether it was appropriate		What actions have been taken if not appropriate?
		Yes	No.	app: oprace
1.	Name and level of occupation	Yes		
2.	Nominal Hour	Yes		360 hours
3.	Unit of Competency		No.	• Out 7 UoC, name of 1 UoC have changed and nominal also changed
4.	Element		No.	 Total 05 elements are edited 01 element is added or deleted
5.	Performance Criteria		No.	• Total 12 performance criteria edited and finetuned as per elements
6.	Variables		No.	• 20 new variables are added
7.	Critical Aspect of Competence		No.	• Necessary changes have been made in the critical aspect of competency according to above changes.
8.	Underpinning knowledge		No.	• Necessary changes have been made in the underpinning knowledge according to above changes.
9.	Underpinning Skills		No.	• Necessary addition, changes and fine tuning have been made.
10.	Attitude	Yes		
11.	Resources	Yes		
12.	Assessment methods	Yes		

13.	Others	 The nominal hours of the units of competencies have been rescheduled for content consideration. Overall, the occupation has been included in
		Level-3 according to NSQF (BNQF 1-6).

Through the above activities, the Competency Standard has been finalized and validated as "Carpentry, Level-2.

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Chairman Committee on Standard and Curriculum Validation, Chairman – FSISC