



**NATIONAL COMPETENCY STANDARDS
FOR
WOODEN FURNITURE MAKER
(NC2 & NC3)**

**Department of Occupational Standards
Ministry of Labour and Human Resources
Thimphu, Bhutan
August 2019**



**NATIONAL COMPETENCY STANDARDS
FOR
WOODEN FURNITURE MAKER
(NC2 & NC3)**

**Department of Occupational Standards
Ministry of Labour and Human Resources
Thimphu, Bhutan
August 2019**

First Publication 2010

First Revision 2014

Second Revision 2019

© Department of Occupational Standards (DOS), MoLHR

FOREWORD

The Department of Occupational Standards of the Ministry of Labour and Human Resources is pleased to present the revised National Competency Standards (NCSs) for Wooden Furniture Maker. The standards represent the fruits of hard work and invaluable experiences gained by the department since its establishment in the latter half of 2003. The main aim of developing NCS is to set up a well-defined nationally recognized Vocational Qualification System that will help set a benchmark for the Technical Vocational Education and Training (TVET) System in our country aligned to international best practices.

NCS is one of the base pillars in the Bhutan Vocational Qualification Framework (BVQF) and is the first step in its implementation. The NCS are developed and revised to ensure that employees or vocational graduates possess and acquire the desired competencies required by industries and employers. In order to ensure this close match in supply and demand of competencies, NCS have been developed and revised in close consultation and partnership with industry experts and validated by the Technical Advisory Committees of the concerned economic sectors.

A vocational education and training system based on NCS shall ensure that delivered training is of a high quality and relevant to the needs of the labour market. As a result, future TVET graduates will be better equipped to meet the need and expectations of industries and employers. This positive impact on the employability of TVET graduates will enhance the reputation of vocational education and training and make it attractive to school leavers.

I gratefully acknowledge collaboration and the valuable contributions made by experts from industries during the consultation and validation processes of the standards. I look forward for continued engagement and participation of the industry and employers in the development of a quality assured demand driven TVET system and to build competent and productive national workforce that will contribute to the continued socio-economic progress of our country.

Director
Department of Occupational Standards
Ministry of Labour and Human Resources

Acknowledgement

Validation date : 12/8/2019

Date of Review : 12/8/2022 (max. 3 years).

Technical Advisory Committee (TAC) members for the wood based sector involved in the validation:

1. Karma Jigme (Chairperson), Staples and Jatu Wood Industry, Phuntsholing
2. Tshewang (Member Secretary) DOS, MoLHR
3. Mon Bdr. Rai, Wood Craft Center, Thimphu
4. Tashi Choizang, Tashi Furniture, Thimphu
5. Prakash Rai, Wangmo Furniture, Thimphu
6. Parlad Gurung, Palard Furniture, Thimphu
7. Pema Wangchen, Furniture World, Paro

Subject experts involved during the consultative workshop:

First group of Experts

1. Sonam Tshering, Wood Craft Centre Limited, Thimphu
2. Sonam Dorji, Dechen Wangdi Furniture House, Paro
3. Sangay Chopel, Zobel Furniture, Thimphu
4. Ganga Ram, PD Furniture, Thimphu
5. Mon Bdr. Rai, Wood Craft Centre Limited, Thimphu
6. Pema Wangchen, Capital Furniture, Paro
7. Kelzang Namgyel, Instructor, Rangjung
8. Sonam Penjor, Instructor, Rangjung
9. Chaiyo Opassamutchai, Instructor, Rangjung
10. Rinzin Wangchuk, Instructor, Rangjung

Second Group of Experts

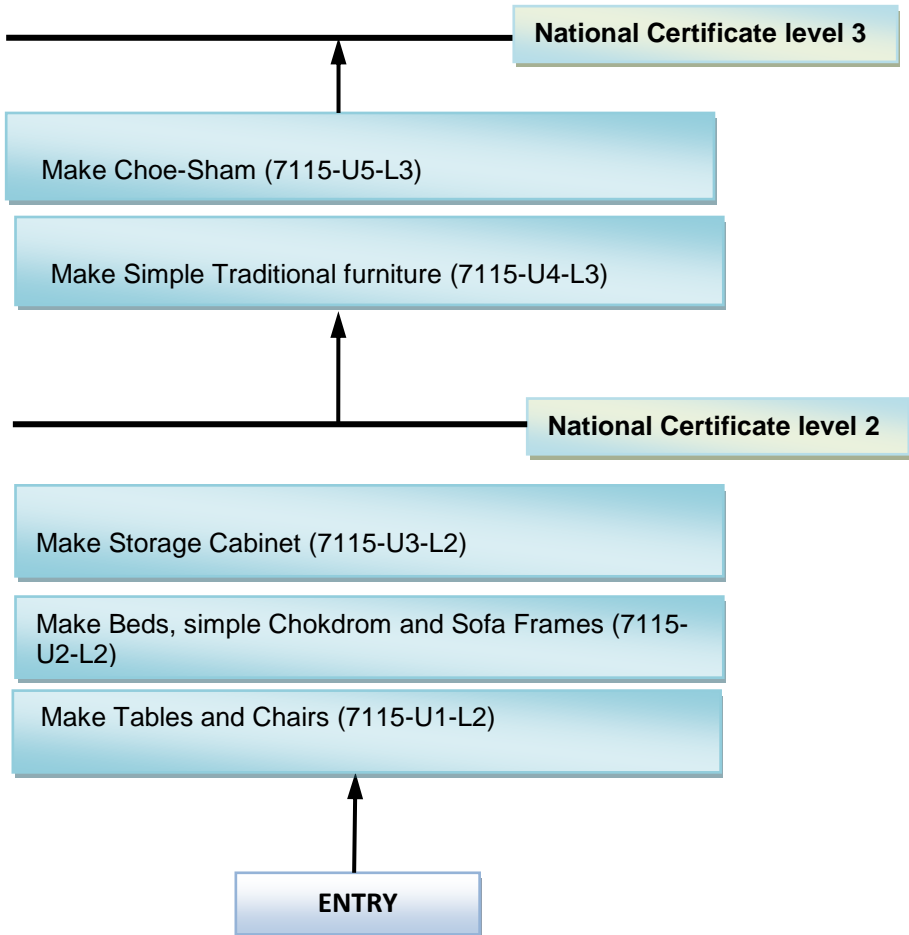
1. Nirmal Kumar Lama, Gyeltshen Furniture, Gelephu
2. Kiran Rai, Druk wood Manufacturing group, Gelephu
3. Pema Wangmo, Druk wood Manufacturing group, Gelephu
4. Mangal Bdr. Jampelling furniture house, Gelephu
5. Pema Lhamo, Pema Lhamo Furniture Unit, Lodrai, Gelephu
6. Tashi Tshering, JWPTI, Gelephu

Development group (Facilitator):

Karma Loday, Chief Program Officer, Department of Occupational Standards, MoLHR, Thimphu.

Chogay Lhendup, Program Officer, DOS, MoLHR, Thimphu.

PACKAGING OF QUALIFICATIONS



OVERVIEW OF NATIONAL COMPETENCY STANDARDS

UNIT TITLE	ELEMENTS OF COMPETENCE
1. Make Tables and Chairs	<ol style="list-style-type: none">1. Prepare for Tables and Chairs making2. Make joints and assemble the parts3. Carry out finishing works
2. Make Bed, Sofa Frames and Chokdrom	<ol style="list-style-type: none">1. Make Bed2. Make Sofa Frames3. Make Simple Chokdrom
3. Make storage cabinet	<ol style="list-style-type: none">1. Prepare for cabinet making2. Make shutters, joints and assemble the parts
4. Make Traditional furniture	<ol style="list-style-type: none">1. Prepare for making traditional furniture2. Make joints and assemble the parts
5. Make Choe-Sham	<ol style="list-style-type: none">1. Prepare for making Choe-Sham2. Make Joints and assemble the parts

UNIT TITLE : **Make Tables and Chairs**

DESCRIPTOR : This unit covers the competencies required to make tables and chairs as per the job requirement following standard procedure.

CODE : **7115-U1-L2**

ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Prepare materials for making tables and chairs	1.1 Select and use required Personal Protective Equipment as per the job requirement. 1.2 Interpret drawings and designs as per the Job requirement 1.3 Cut and size the materials as per the drawings and specifications. 1.4 Carry out planing of work pieces to the required size following standard procedures.
2. Make joints and Assemble the parts	2.1 Make joints as per the job requirement following standard procedures 2.2 Assemble the parts following standard procedures 2.3 Use hand and power tools as per the job requirements standard procedures 2.4 Operate wood working machines as per the job requirement following standard procedures
3. Carry out Finishing woks	3.1 Apply putty as per the job requirement following standard procedures 3.2 Carry out sanding works as per the standard procedures

	3.3 Carry out polishing as per the standard procedures.
--	---

RANGE STATEMENT	
Personal Protective Equipments(PPE) may include but not limited to:	
<ul style="list-style-type: none"> • Helmet • Mask • Safety Shoes • Apron 	<ul style="list-style-type: none"> • Goggles • Gloves • Ear muff
Materials may include but not limited to:	
<ul style="list-style-type: none"> • Timbers • Glue • Polishing items • Dowel 	<ul style="list-style-type: none"> • Boards • Nails & screws • Sand papers
Hand and power tools may include but not limited to:	
<ul style="list-style-type: none"> • Planer machine • Chisel • Router 	<ul style="list-style-type: none"> • Drill • Jigsaw • Circular saw
Wood working machine may include but not limited:	
<ul style="list-style-type: none"> • Thickneser • Surface planner 	<ul style="list-style-type: none"> • Panel saw • Band saw
Critical Aspects:	
<ul style="list-style-type: none"> • Following of Occupational and Health and safety at all times • Make tables and chairs as per the drawings and designs following standard procedures. 	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> • Ethics and Integrity • Basic First Aid • Seasoning of Timbers 	<ul style="list-style-type: none"> • Communication skills • Team Work • Coordination

<ul style="list-style-type: none">• Types of Joints• Timber species• Measurement Tolerance• Forestry Rules and Regulations• Economic use of Materials• Costing and estimation• Types of adhesive• Types of abrasives• Basic drawings• Polishing types• Types and functions of machines	<ul style="list-style-type: none">• Problem solving <p>Planning</p> <ul style="list-style-type: none">• Use of hand tools & machine operation
--	---

UNIT TITLE : **Make Bed, Simple Chokdrom and Sofa Frames**

DESCRIPTOR : This unit covers the competencies required to make beds, simple chokdrom and sofa frames as per the drawings and designs following standard procedures

CODE : **7115-U2-L2**

ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Make bed	<p>1.1 Select and use required PPE as per the job requirement.</p> <p>1.2 Read and interpret drawings and designs as per the job requirement</p> <p>1.3 Cut the materials to the required sizes as per the drawings and specification</p> <p>1.4 Carry out planing on work pieces as per the job requirement following standard procedures</p> <p>1.5 Make joints as per the job requirement following standard procedures</p> <p>1.6 Assemble the work pieces as per the job requirement following standard procedures</p> <p>1.7 Carry out finishing works as per the standard procedures.</p>
2. Make simple Chokdrom	<p>2.1 Read and interpret drawings and designs as per the job requirement</p> <p>2.2 Cut the materials to the required sizes as per the drawings and specification</p> <p>2.3 Carry out planning on work pieces as per the job requirement following standard procedures</p> <p>2.4 Make joints as per the job requirement following standard procedures</p> <p>2.5 Assemble the work pieces as per the job</p>

	requirement following standard procedures
	2.6 Carry out finishing works as per the standard procedures.
3. Make sofa frames	3.1 Read and interpret drawings and designs as per the job requirement 3.2 Cut the materials to the required sizes as per the drawings and specification 3.3 Carry out planing on work pieces as per the job requirement following standard procedures 3.4 Make joints as per the job requirement following standard procedures 3.5 Assemble the work pieces as per the job requirement following standard procedures 3.6 Carry out finishing works as per the standard procedures.

RANGE STATEMENT	
Joints may include but not limited to:	
<ul style="list-style-type: none"> • Mortise and tennon joint • Dowel joint 	<ul style="list-style-type: none"> • Half lap joint • T-joint
Work Pieces may include but not limited to:	
<ul style="list-style-type: none"> • Frames • Brace 	<ul style="list-style-type: none"> • Support • Bed Top
Finishing works may include but not limited to:	
<ul style="list-style-type: none"> • Polishing 	<ul style="list-style-type: none"> • Sanding
Critical Aspects:	
<ul style="list-style-type: none"> • Demonstrate compliance with safety regulations applicable to work operations at all times. • Make bed and sofa frame to required strength as per the drawings and design following standard procedures. 	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> • Ethics and Integrity • Basic First Aid • OHS regulation • Types of joints • Estimation and costing • Economic use of materials • Seasoning of timbers • Types of wood polish • Wood species • Types of beds and sofas • Basic drawings 	<ul style="list-style-type: none"> • Communication skills • Team work • Coordination • Problem solving • Planning • Patience

UNIT TITLE : **Make Storage cabinet**

DESCRIPTOR : This unit covers the competencies required to make cupboard, show case, book shelf, TV cabinet, file rack, kitchen cabinet, shoe rack, counter table and other furniture related to cabinets as per the drawings and design following standard procedures.

CODE : **7115-U3-L2**

ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Prepare for cabinet making	1.1 Select and use required Personal Protective Equipment as per the job requirement. 1.2 Interpret drawings and designs as per the Job requirement 1.3 Cut the materials as per the drawings and specifications. 1.4 Carry out planing of work pieces to the required size following standard procedures. 1.5 Cut the work pieces to required size as per the drawings
2. Make shutters, Joints, and assemble the parts	2.1 Make joints as per the job requirement following standard procedures 2.2 Make shutters as per the drawings and design following standard procedure 2.3 Assemble the work pieces as per the job requirement following standard procedures 2.4 Fix the hardware fittings as per the job requirement. 2.5 Carry out finishing works as per the standard procedures.

RANGE STATEMENT

Materials may include but not limited to:

- Timbers
- Board
- Glue
- Glass
- Wire mesh
- Nails and screws

Joints may include but not limited to:

- Dowel joint
- T-joint
- Tennon and mortise joint
- Lap joint

Hardware fittings may include but not limited to:

- Hinges
- Latches
- Tower bolt
- Lock
- Handle
- Magnet
- Corner pins
- Drawer channel
- Sliding channels

Finishing works may include but not limited to:

- Sanding and applying wood fillers
- Polishing

Critical aspects

- Demonstrate compliance with safety regulations applicable to work operations at all times.
- Make storage cabinet as per the drawings and designs following standard procedures

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> • Ethics and Integrity • Basic First Aid • OHS regulation • Types of joints • Estimation and costing • Economic use of materials • Seasoning of timbers • Types of wood polish • Wood species • Types of storage cabinets 	<ul style="list-style-type: none"> • Communication skills • Team work • Coordination • Problem solving • Planning • Patience

UNIT TITLE : **Make Traditional furniture**

DESCRIPTOR : This unit covers the competencies required to make simple traditional items as per the drawings and designs following standard procedures

CODE : **7115-U4-L3**

ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Prepare materials for making traditional furniture	1.1 Select and use required Personal Protective Equipment as per the job requirement. 1.2 Interpret drawings and designs as per the Job requirement 1.3 Cut and size the materials as per the drawings and specifications. 1.4 Carry out planning of work pieces to the required size following standard procedures
2. Make Joints and assemble the parts	2.1 Make joints as per the job requirement following standard procedures 2.2 Make work pieces as per the drawings and design following standard procedure 2.3 Assemble the work pieces to form traditional furniture as per the job requirement following standard procedures 2.4 Fix the hardware fittings as per the job requirement following standard procedures 2.5 Carry out finishing works as per the standard procedures.

RANGE STATEMENT	
Personal Protective Equipments may include but not limited to:	
<ul style="list-style-type: none"> • Goggles • Safety shoes 	<ul style="list-style-type: none"> • Hand gloves
Materials may include but not limited to:	
<ul style="list-style-type: none"> • Timbers • Board • Nails and screws 	<ul style="list-style-type: none"> • Glass • Glue
Joints may include but not limited to:	
<ul style="list-style-type: none"> • Dowel joint • Tennon and mortise joint 	<ul style="list-style-type: none"> • Lap joint
Traditional furniture may include but not limited to:	
<ul style="list-style-type: none"> • Traditional Chok-drom (rigna chemm) • Zhug Thri • Tshog-zhong 	<ul style="list-style-type: none"> • Tor-thri • Podium
Hardware fittings may include but not limited to:	
<ul style="list-style-type: none"> • Tower bolt • Magnet • Corner pins bolt 	<ul style="list-style-type: none"> • Lock • Handle
Finishing works may include but not limited to:	
<ul style="list-style-type: none"> • Sanding 	<ul style="list-style-type: none"> • Polishing
Critical Aspects	
<ul style="list-style-type: none"> • Demonstrate compliance with safety regulations applicable to work operations at all times. • Make traditional furniture as per the drawings and design following standard procedures. 	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> • Ethics and Integrity • Basic First Aid • OHS regulation • Types of joints • Estimation and costing • Economic use of materials • Seasoning of timbers • Types of wood polish • Wood species • Wood defects • Basic drawings 	<ul style="list-style-type: none"> • Communication skills • Team work • Coordination • Problem solving • Planning

UNIT TITLE : **Make Choe- Sham**

DESCRIPTOR : This unit covers the competencies required to make choe-sham of all types as per the drawings and designs following standard procedures

CODE : **7115-U5-L3**

ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Prepare materials for making Choe-sham	1.1 Select and use required Personal Protective Equipment as per the job requirement. 1.2 Interpret drawings and designs as per the Job requirement 1.3 Cut and size the materials as per the drawings and specifications. 1.4 Carry out planing of work pieces to the required size following standard procedures.
2. Make Joints and Assemble the parts	2.1 Make joints as per the job requirement following standard procedures 2.2 Make work pieces as per the drawings and design following standard procedure 2.3 Assemble the work pieces as per the job requirement following standard procedures 2.4 Fix the hardware fittings as per the job requirement following standard procedures 2.1 Carry out finishing works as per the standard procedures.

RANGE STATEMENT	
Personal Protective Equipments may include but not limited to:	
<ul style="list-style-type: none"> • Gloves • Safety shoes 	<ul style="list-style-type: none"> • Goggles
Materials may include but not limited to:	
<ul style="list-style-type: none"> • Timbers • Board • Nails and screws 	<ul style="list-style-type: none"> • Glass • Glue
Joints may include but not limited to:	
<ul style="list-style-type: none"> • Dowel joint • Tennon and mortise joint 	<ul style="list-style-type: none"> • Lap joint • Mitre joints
Work pieces may include but not limited to:	
<ul style="list-style-type: none"> • Gu-cha/Rig-Nga • Go-Zingkha • Kachung • Baagam 	<ul style="list-style-type: none"> • Dung • Pem • Cheotse
Hardware Fittings may include but not limited to:	
<ul style="list-style-type: none"> • Hinges • Latches • Tower bolt • Lock 	<ul style="list-style-type: none"> • Handle • Magnet • Corner pins
Finishing works may include but not limited to:	
<ul style="list-style-type: none"> • Sanding 	<ul style="list-style-type: none"> • Polishing
Critical Aspects	
<ul style="list-style-type: none"> • Demonstrate compliance with safety regulations applicable to work operations at all times • Make choe-sham as per the drawings and design following standard procedures 	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> • Ethics and Integrity • Basic First Aid • OHS regulation • Types of joints • Estimation and costing • Economic use of materials • Seasoning of timbers • Types of wood polish • Wood species • Types of choe-sham • Basic drawings • Traditional cornices 	<ul style="list-style-type: none"> • Communication skills • Team work • Coordination • Problem solving • Planning

Annexures

A. National Competency Standards (NCS)

The National Competency Standards specify the skill, knowledge and attitudes applied to a particular occupation. Standards also specify the standards or criteria of performance of a competent worker and the various contexts in which work may take place. Standards provide explicit advice to assessors regarding the skill and knowledge to be demonstrated by candidates seeking formal recognition either following training or through work experience.

Purpose of National Competency Standards

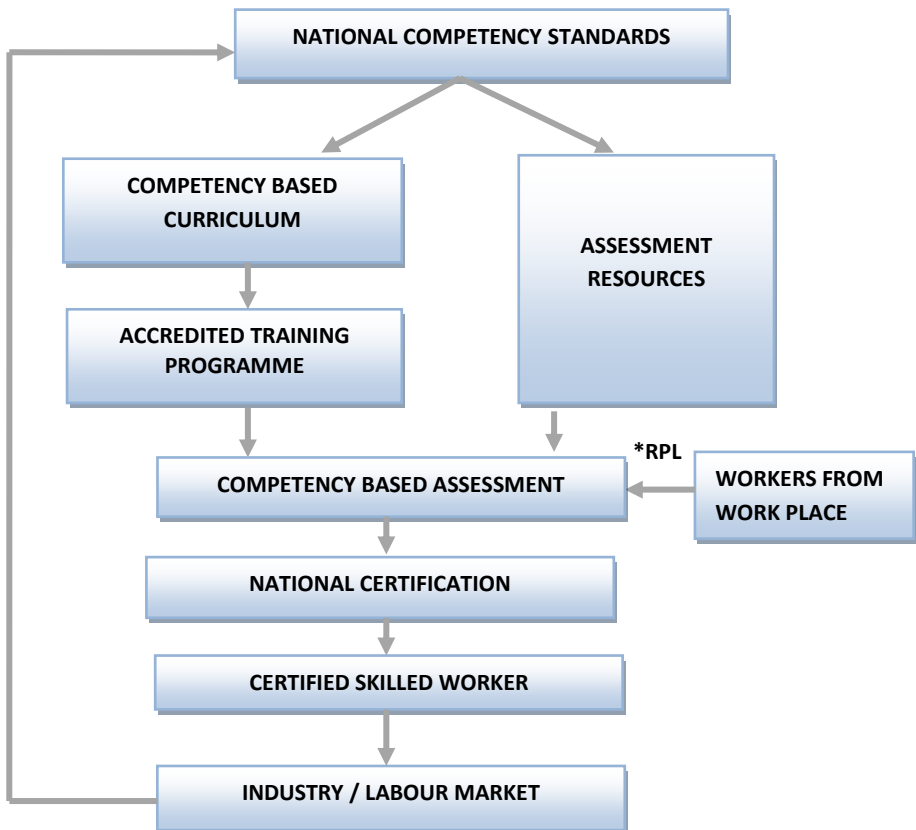
National Competency Standards serve a number of purposes including:

- Providing advice to curriculum developers about the competencies to be included in curriculum.
- Providing specifications to assessment resource developers about the competencies within an occupation to be demonstrated by candidates.
- Providing advice to industry/employers about job functions, which in turn can be used for the development of job descriptions, performance appraisal systems and work flow analysis.

B. Bhutan Vocational Qualifications Framework (BVQF)

Bhutan Vocational Qualifications Framework is an agreed system of Assessing, Certifying and Monitoring nationally recognized qualifications for all learning in the TVET sector against national competency standards, in training institutions, in the workplace, in schools or anywhere where learning takes place.

Components of the Bhutan Vocational Qualifications Framework (BVQF)



* RPL = Recognition of Prior Learning

BVQF Levels

The Bhutan Vocational Qualifications Framework has three levels classified based on the competency of the skilled workers. The three levels are:

- National Certificate Level 3 (NC III)
- National Certificate Level 2 (NC II)
- National Certificate Level 1 (NC I)

BVQF Level Descriptors

The qualification levels are decided based on level descriptors. The detail of the qualification level descriptor is as follows:

National Certificate Level 1 (Semi Skilled)

Carry out processes that:	Learning demand:	Responsibilities which are applied:
<ul style="list-style-type: none">• Are narrow in range.• Are established and familiar.• Offer a clear choice of routine responses.• Involve some prioritizing of tasks from known solutions.	<ul style="list-style-type: none">• Basic operational knowledge and skill.• Utilization of basic available information.• Known solutions to familiar problems.• Little generation of new ideas.	<ul style="list-style-type: none">• In directed activity.• Under general supervision and quality control.• With some responsibility for quantity and quality.• With no responsibility for guiding others.

National Certificate Level 2 (Craftsman)

Carry out processes that:	Learning demand:	Responsibilities which are applied:
<ul style="list-style-type: none"> • Require a range of well-developed skills. • Offer a significant choice of procedures requiring prioritization. • Are employed within a range of familiar context. 	<ul style="list-style-type: none"> • Some relevant theoretical knowledge. • Interpretation of available information. • Discretion and judgments. • A range of known responses to familiar problems 	<ul style="list-style-type: none"> • In directed activity with some autonomy. • Under general supervision and quality checking. • With significant responsibility for the quantity and quality of output. • With some possible responsibility for the output of others.

National Certificate Level 3 (Master craftsman)

Carry out processes that:	Learning demand:	Responsibilities which are applied:
<ul style="list-style-type: none"> • Requires a wide range of technical or scholastic skills. • Offer a considerable choice of procedures requiring prioritization to achieve optimum outcomes. • Are employed in a variety of familiar and unfamiliar contexts. 	<ul style="list-style-type: none"> • A broad knowledge base which incorporates some theoretical concepts. • Analytical interpretation of information. • Informed judgment. • A range of sometimes innovative responses to concrete but often unfamiliar problems. 	<ul style="list-style-type: none"> • In self-directed activity. • Under broad guidance and evaluation. • With complete responsibility for quantity and quality of output. • With possible responsibility for the output of others.

PURPOSE

This suite of two qualifications is designed for people interested in a career as Wooden Furniture Maker at the certificate level.

It comprises of five units that cover the essential knowledge and skills required for people working as Wooden Furniture Maker.

The pre-requisite for the candidates aspiring to pursue certificate level in wooden furniture maker should possess at least minimum educational qualification requirement.

Unlike the competency based system at the certificate levels, credit system may be followed at the diploma levels to facilitate credit transfer to technical and technological degree programs.

CODING USED FOR NATIONAL COMPETENCY STANDARDS

The coding and classification system developed in Bhutan is logical, easy to use, and also aligned with international best practises. The Bhutanese coding and classification system is based on the International Standard Classification of Occupations, 2008 (ISCO-08) developed by the International Labour Organisation (ILO).

The coding of the National Competency Standards forms the basis of the identification code for the Vocational Education and Training Management Information System (VET – MIS) both in terms of economic sector identification and that of the individual standard.

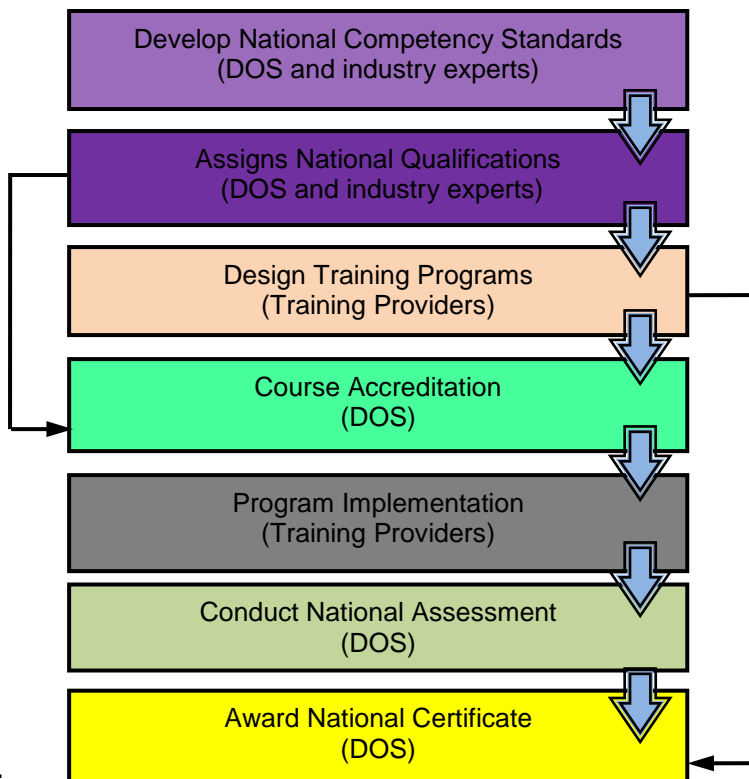
Coding the individual unit of National Competency Standard

Coding the individual units of Competency Standard is to identify the level where that particular unit belongs.

While packaging, in order to follow a logical order, only national competency standards related to each other and following a logical sequence in terms of training delivery, from the simple to the complex are clustered into a qualification packages.

The ILO assigns the code 7115 to the occupation, Wooden Furniture Maker and related trades. Therefore, in Bhutan, the occupation wooden furniture maker has been assigned the code 7115 in the national coding system. The units are assigned the code 'U' while the levels are assigned the code 'L'. Therefore, the code for the National Certificate II will be 7115-U1-L2.

Implementation and operational procedures for National Competency Standards (NCS)

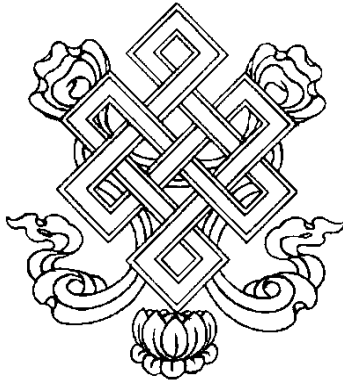


Key:

MoLHR – Ministry of Labour and Human Resources

DHR – Department of Human Resources

DOS – Department of Occupational Standards



Department of Occupational Standards
Ministry of Labour & Human Resources
Thongsel Lam, Lower Motithang
P.O. Box 1036, Thimphu
Tel: 02-331611 Fax: 02-326873
www.molhr.gov.bt

