



**NATIONAL COMPETENCY STANDARDS
FOR
CONSTRUCTION SUPERVISOR
(ND1 & ND2)**

**Department of Occupational Standards
Ministry of Labour and Human Resources
Thimphu, Bhutan.
November 2021**



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**Department of Occupational Standards
Ministry of Labour and Human Resources
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FOREWORD

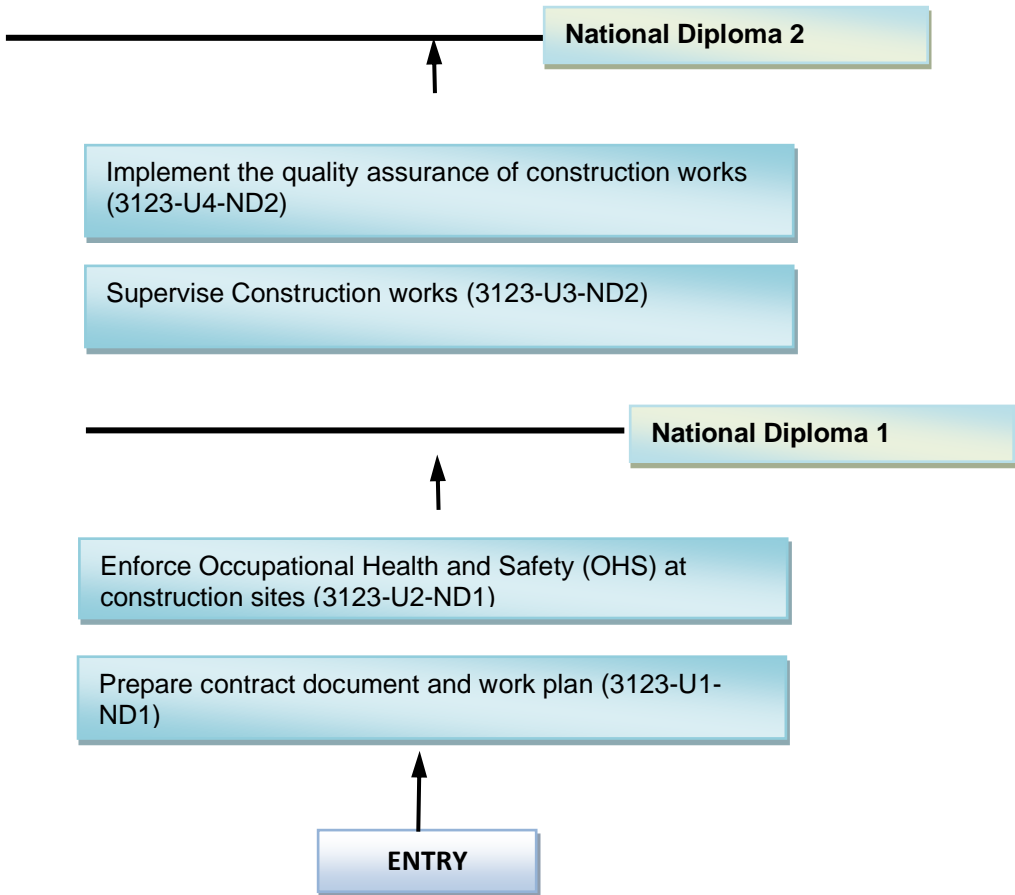
The Department of Occupational Standards is pleased to release the Diploma level National Competency Standards (NCS) for Construction Supervisor. This NCS is developed in close consultation with industry or field experts to capture the competencies required at workplaces. The National Competency Standards contains the knowledge, skills and attitude required by competent workers to perform best at workplace.

The development of National Competency Standards was initiated with the implementation of Bhutan Vocational Qualifications Framework (BVQF) as part of Technical Vocational Education and Training (TVET) reform process in our country. The Qualifications set through the NCS will be the accredited and recognized nationally. The Training providers are required to develop curriculums based on NCS to get their courses accredited and to avail National Certification for their trainees.

This department would like to acknowledge the active participation of industry or field experts from private, corporate and public sectors. The industry participation is very crucial to shift our TVET system from supply based to demand driven. The trainings delivered based on the NCS is expected to make our workforce competent and productive thereby enhancing the productivity of our industries. The competent workforce is the key to socio economic development of our country.

Director
Department of Occupational Standards

PACKAGING OF QUALIFICATIONS



Acknowledgement

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OVERVIEW OF NATIONAL COMPETENCY STANDARDS

SI	UNIT TITLE	ELEMENTS OF COMPETENCE
1.	Prepare contract documents and work plan	1.1 Prepare contract document 1.2 Prepare work plan 1.3 Prepare resource plan
2.	Enforce Occupational Health and Safety(OHS) at construction sites	2.1 Ensure compliance to Occupational Health and Safety Laws 2.2 Contribute to Safety and health management system 2.3 Implement risk management system 2.4 Contribute to Workplace Incident responses 2.5 Implement emergency procedures
3.	Supervise Construction works	3.1 Perform site layouts 3.2 Monitor work progress 3.3 Maintain work reports 3.4 Prepare bills
4.	Implement the quality assurance of construction works	4.1 Check quality of resources 4.2 Check quality of work

UNIT TITLE : **Prepare contract documents and work plan**

DESCRIPTOR : This unit covers the competencies required to perform work planning ensuring standard and implementing construction contract following safety procedures at all times.

CODE : **3123- U1- ND1**

ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Prepare contract document	1.1 Interpret contract document and its components (BOQ, Drawing) as per the Standard Bidding Documents 1.2 Assist in preparing contract documents as per the job requirement following standard procedure
2. Prepare Work plan	2.1 Identify work activities as per the job requirement 2.2 Set work time frame as per the job requirement 2.3 Revise work plan as per the job requirement
3. Prepare Resource plan	3.1 Estimate man power as per the nature and job requirement following standard procedures 3.2 Estimate materials and equipment as per the job requirement following standard procedures

RANGE STATEMENT	
Contract Documents may include but not limited to:	
<ul style="list-style-type: none"> Government construction contract documents 	<ul style="list-style-type: none"> Contract between company and workers
Man power may include but not limited to	
<ul style="list-style-type: none"> Carpenter Mason 	<ul style="list-style-type: none"> Plumber Welder

• Electrician	• Helper
Materials and equipment may include but not limited to:	
<ul style="list-style-type: none"> • Cement • Timber • Excavator • Mixer machine 	<ul style="list-style-type: none"> • Sand • Aggregate • Wheel barrow • Crane
Critical Aspects: <ul style="list-style-type: none"> • Demonstrate compliance with safety regulations applicable to work site operations • Set work time frame as per the condition and nature of work 	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> • Ethics and Integrity • Occupational Health and safety regulations • Basic First Aid • Materials and its specifications • Specification of civil & electrical works • Labour and Material Coefficient (LMC) • Basic estimation and costing • Clearances (Environment, forest, Power, Culture, Public, etc) • Bhutan Schedule of Rates (BSR) • Procurement Rules and Regulations (PRR) of MoF • eGP system 	<ul style="list-style-type: none"> • Team work • Communication skills • Time Management • Problem Solving • Innovative thinking • Negotiation • Critical Thinking

- e-Tool
- Construction Software(CMS Manager

UNIT TITLE : **Enforce Occupational Health and Safety (OHS) at construction sites**

DESCRIPTOR : This unit covers the competencies required to occupational health and safety regulations at construction sites at all times.

CODE : **3123- U2- ND1**

ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Ensure compliance to Occupational Health and Safety Laws	1.1 Ensure all the workers comply with the OHS rules and regulations 1.2 Provide advice about OHS compliance and assist individuals and/or parties to provide information about their OHS duties, rights and obligation. 1.3 Maintain safety equipment at work site as per the OHS requirement 1.4 Install safety signage as per the standard procedures 1.5 Barricade the construction site following standard procedures
2. Contribute to Safety and health management system	2.1 Implement and monitor OHS policies, procedures, training, plans and programs to meet legislative requirements 2.2 Implement control measures for noise, vibration, and dust pollution following standard procedures 2.3 Cooperate with relevant regulatory agencies as per the job requirement
3. Implement risk management system	3.1 Assist in developing risk assessment procedures and standards 3.2 Assist in identifying, assessing, and controlling risk and adopting control measures 3.3 Identify and designate safe zone for emergency evacuation following standard procedures

<p>4. Contribute to Workplace Incident responses</p>	<p>4.1 Assist to prepare action plan and activities associated with incident response</p> <p>4.2 Implement response procedure during incident</p> <p>4.3 Collect OHS information about incident</p> <p>4.4 Assist in conducting accident investigation</p> <p>4.5 Assist in developing and implementing recommended measures and actions arising from incident investigation</p>
<p>5. Implement emergency procedures</p>	<p>5.1 Assist in developing and implementing emergency management plan and procedures</p> <p>5.2 Identify and designate assembly point during the emergency</p> <p>5.3 Assist in conducting emergency drills</p> <p>5.4 Ensure emergency equipment are in place and maintained properly</p>

RANGE STATEMENT	
Safety Equipment may include but not limited to:	
<ul style="list-style-type: none"> • Fire Extinguisher 	<ul style="list-style-type: none"> • PPEs
Relevant regulatory agencies may include but not limited to:	
<ul style="list-style-type: none"> • Labour official • OHS focal Officer 	<ul style="list-style-type: none"> • Construction Development Board (CDB)
Critical Aspects: <ul style="list-style-type: none"> • Ensure all the workers comply with the OHS rules and regulations • Ensure safe work site following standard procedures 	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
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- Ethics and Integrity
- Occupational Health and safety regulations
- Basic First Aid
- Types of PPEs and applications
- Types of Signage used at construction site
- OHS provision in BSR
- CDB Monitoring Guidelines
- Measurement and conversion
- Basic estimation and costing

- Team work
- Communication skills
- Time Management
- Problem Solving
- Innovative thinking
- Negotiation
- Critical Thinking

UNIT TITLE : **Supervise construction works**

DESCRIPTOR : This unit covers the competencies required to check the implementation of construction activities and monitoring of work progress at all times.

CODE : **3123-U3- ND2**

ELEMENTS OF COMPETENCE		PERFORMANCE CRITERIA	
1.	Perform site layouts	1.1	Interpret drawings as per the job requirement
		1.2	Perform site layouts as per the job requirement
		1.3	Identify the changes required to drawings and layout as per the site conditions and report to relevant authority
2.	Monitor work progress	2.1	Implement the work as per the daily work plan
		2.2	Allocate resources as per the job requirement
		2.3	Supervise the daily performance of the workforce and machineries as per the work plan
		2.4	Ensure the construction works are in line with the specifications and drawings
		2.5	Supervise the daily usage of materials and POL as per the job requirement.
		2.6	Take corrective measures if necessary as per the job requirement
3.	Maintain Work Reports	3.1	Maintain inventory of resources as per the job requirement
		3.2	Maintain Machinery Log Book following standard procedure
		3.3	Maintain Attendance Register as per the job requirement

	<p>3.4 Prepare Work Reports as per the job requirement</p> <p>3.5 Maintain Hindrance Register following standard procedure</p> <p>3.6 Maintain Site Order Book following standard procedure</p>
<p>4. Prepare Bills</p>	<p>4.1 Perform measurement of completed works following standard procedure</p> <p>4.2 Prepare Running Account (RA) Bills and final bills following standard procedure</p> <p>4.3 Prepare Petty bills as per the job requirement</p>

UNIT TITLE : **Implement quality assurance of construction works**

DESCRIPTOR : This unit covers the competencies required to implement quality control measures both for the resources and work at the construction site at all times.

CODE : **3123-U4-ND2**

ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Check Quality of Resources	1.1 Check the materials for compliance with the standard set by the BSB following standard Procedure 1.2 Carry out <i>physical inspection of materials</i> as per the work requirement. 1.3 Interpret inspection findings as per the work requirement. 1.4 Accept or reject the materials based on the inspection findings as per the job requirement
2. Check Quality of work	2.1 Check measurement and alignment of works as per the specification and drawings

	2.2 Check physical appearance of the construction work as per the drawings and specification
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RANGE STATEMENT	
Physical inspection of materials may include but not limited to”	
<ul style="list-style-type: none"> • Visual inspection 	<ul style="list-style-type: none"> • Sound testing
Critical Aspects: <ul style="list-style-type: none"> • Demonstrate compliance with safety regulations applicable to work site operations • Check measurement and alignment as per the drawings and specifications • Ensure the quality of resources following standard procedures 	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> • Ethics and Integrity • Occupational Health and Safety (OHS) regulations • Basic First Aid • Materials and their specifications • Specification of civil & electrical works • Quality control of construction works 	<ul style="list-style-type: none"> • Team work • Communication skills • Time Management • Problem Solving • Innovative thinking • Negotiation • Critical Thinking

ANNEXURE

A. National Competency Standards (NCS)

Competency Standards specify the skill, knowledge and attitude applied to a particular occupation. Standards also specify the requirements 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

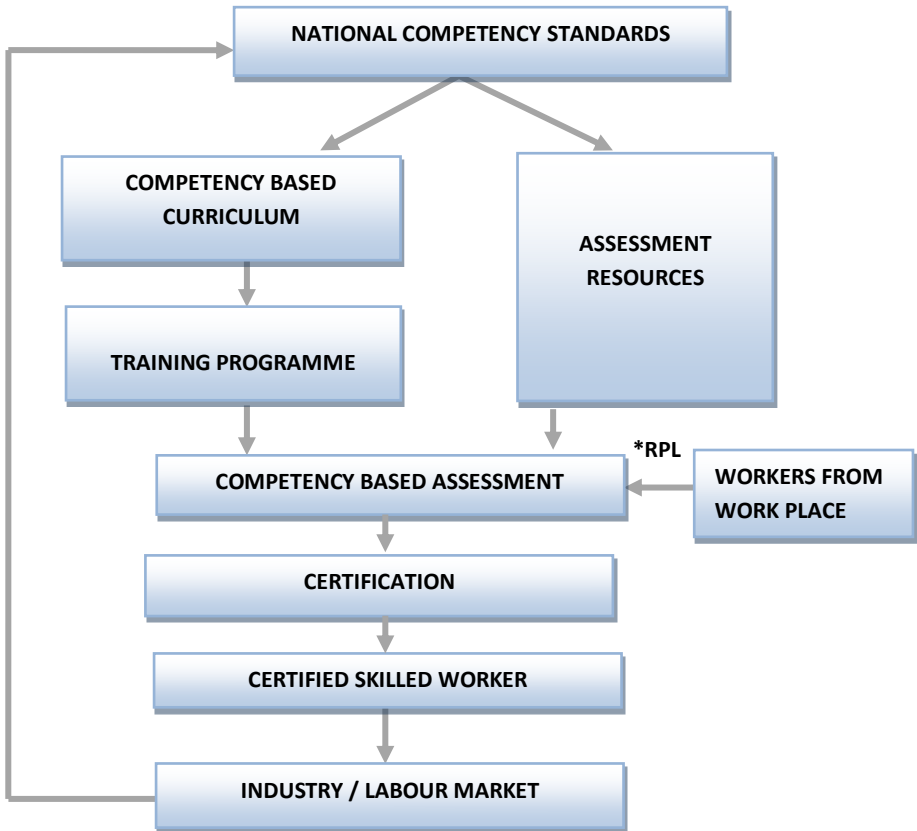
National Competency Standards serve a number of purposes including:

- Providing advice to curriculum developers about the skill and knowledge to be included in curriculum.
- Providing specifications to assessment resource developers about the skill, knowledge and attitudes 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 Qualification 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 standards, in training institutions, in the workplace, in schools or anywhere where learning takes place.

Components of the Bhutan Vocational Qualification Framework (BVQF)



* RPL = Recognition of Prior Learning

BVQF Levels

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

- National Diploma 2 (ND2)
- National Diploma1 (ND1)
- 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

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

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

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.

National Diploma 1 (ND1)

Carry out processes that:	Learning demand:	Responsibilities which are applied:
<ul style="list-style-type: none"> • Require wide range of specialized technical or scholastic skills. • Involve a wide choice of standard procedures • Are employed in a variety of routine & non-routine contexts 	<ul style="list-style-type: none"> • A broad knowledge based with substantial depth in some areas • Analytical interpretation of wide range of data • Determination of appropriate methods & procedures in response to a range of concrete problems with same theoretical elements 	<ul style="list-style-type: none"> • Self directed and sometimes directed activity • Under broad general guidelines for functions • With full responsibility for the nature, quantity & quality of outcomes • With possible responsibility for the achievement of team output

National Diploma 2 (ND2)

Carry out processes that:	Learning demand:	Responsibilities which are applied:
<ul style="list-style-type: none"> • Require a wide range of technical or scholastic skills. • Offer a wide choice of standard and non- standard procedures • Are employed in a variety of routine and non- routine contexts 	<ul style="list-style-type: none"> • Specialist knowledge with depth in more than one area • Analysis reformatting and evaluation of a wide range of information • Formulation of appropriate responses to resolve both concrete and abstract 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 quality and quantity of output of others

PURPOSE

This suite of two qualifications is designed for people interested in a career as Construction Supervisor at the diploma level. The diploma in construction supervisor comprises of four units that cover the essential knowledge and skills required for people working as Construction Supervisor.

The pre-requisite for the candidates aspiring to pursue diploma in construction supervisor should hold National Certificate level 3 in Construction Supervisor, if any.

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

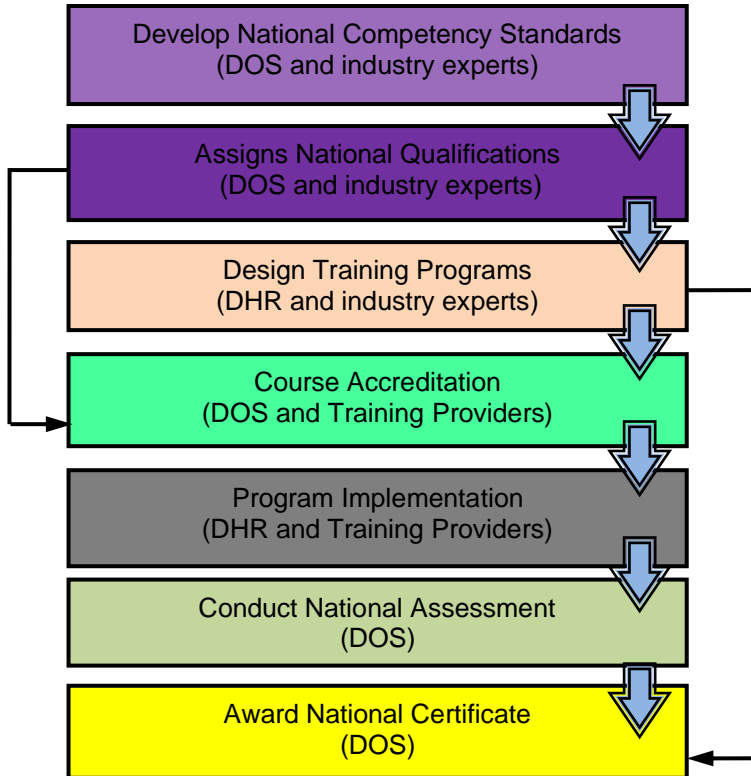
Coding the individual units of Competency Standard is to identify the level where that particular unit belongs.

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 3123 to the occupation, Construction Supervisor and related trades. Therefore, in Bhutan, the occupation Construction supervisor

has been assigned the code 3123 in the national coding system. The units are assigned the code 'U' while the levels are assigned the code 'ND'. Therefore, the code for the National Diploma1 will be 3123-U1-ND1

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



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