



**NATIONAL COMPETENCY STANDARDS
FOR
LANDSCAPE TECHNOLOGIST (DIPLOMA)**

CONSTRUCTION SECTOR

**TECHNICAL & VOCATIONAL EDUCATION AND TRAINING
QUALITY COUNCIL
BHUTAN QUALIFICATIONS AND PROFESSIONALS
CERTIFICATION AUTHORITY
THIMPHU, BHUTAN
DECEMBER 2025**

First Publication: December 2025
© TVET Quality Council

FOREWORD

The TVET Quality Council, BQPCA, is pleased to present the National Competency Standards (NCS) for **Landscape Technologist**, diploma, developed in collaboration with industry experts and trainers with generous funding and technical support from the **Bhutan Education and Skills Training (BEST) Project, Humber College, Canada and Global Affairs Canada**. These standards establish a nationally recognized qualification aligned with international best practices, setting a benchmark for TVET qualifications in Bhutan.

The NCS ensures that trainees acquire the necessary skills, knowledge, and attitude required by industries. Developed through close consultation with experts, it enhances the relevance of training to labor market needs, equipping graduates to meet industry expectations and improving their employability. A strong and responsive TVET system will also make vocational education more attractive to youth.

The Council acknowledges the valuable contributions of the industry experts and trainers, financial and technical assistance of BEST Project, Humber College and Global Affair Canada in the development of these standards. We urge employers and training providers to continue their support in implementing the NCS, fostering a skilled and productive workforce that contributes to national socio-economic development. Moving forward, we look forward to enhanced industry engagement and collaborative efforts in building a quality-assured, demand-driven TVET system.

Director

BQPCA

ACKNOWLEDGEMENT

Date of Endorsement : 31st December 2025
Date of Revision : 30th December 2030

The TVET Quality Council, Bhutan Qualifications and Professional Certification Authority (BQPCA), would like to express its deepest appreciation to the BEST Project, Humber College, and Global Affairs Canada for the invaluable technical and financial support provided during the development and validation of the National Competency Standards (NCS).

The Council also extends its sincere appreciation and acknowledgement to the following industry representatives and subject matter experts whose expertise, time, and commitment contributed significantly to the development of the National Competency Standards for Landscape Technologist.:

Experts involved in the development and validation of the NCS			
SN	Name	Designation	Organization
1	Tshering Penjor	Lead Bio-Aesthetic	Gyalsung Infra, HQ
2	Tshering Duba	Bio-Aesthetic officer	Gyalsung Infra, Tareythang
3	Tshering Dorji	General Manager	GBCL
4	Kelzang Dawa	Site Supervisor	GBCL
5	Gyeltshen Tshering	Sr. Bio-Aesthetic Officer	Gyalsung Infra-Khotokha
6	Wangmo	Sr. Bio Technician	National Biodiversity Centre
7	Tshering Wangmo	Sr. Bio Technician	National Biodiversity Centre
8	Suraj Bhattarai	Architect	Druk Heritage Solution
9	Pema Gyeltshen	Trainer	RDTC
10	Shera Doelkar	Dy. Chief Forestry Officer	Thimphu Thromde

PACKAGING OF QUALIFICATIONS

DIPLOMA

Manage Landscape Maintenance Works (3142-U3-L4)

Manage Landscape Development Works (3142-U2-L4)

Plan and Design Landscape Projects (3142-U1-L4)

ENTRY

OVERVIEW OF THE NCS

Unit Title	Element of Competence
1. Plan and Design Landscape Projects	1.1 Analyse Site Conditions and Requirements 1.2 Prepare Landscape Design Concepts 1.3 Prepare Landscape Plans, Design and Specifications
2. Manage Landscape Development Works	2.1 Plan Landscape Development Activities 2.2 Manage Resources and Materials 2.3 Install Hardscape and Softscape Elements 2.4 Perform Monitoring of Work Processes and Quality
3. Manage Maintenance of Landscape Works	3.1 Plan Landscape Maintenance Programs 3.2 Manage Resources and Materials 3.3 Manage Irrigation and Water Efficiency Systems 3.4 Apply Sustainable Plant Health Management

UNIT TITLE	Plan and Design Landscape Projects
DESCRIPTOR	This unit consists of competencies required to assess site conditions and requirement, develop landscape design and concept, and prepare landscape plans and specifications
CODE	3142-U1-L4
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Analyze Site Conditions and Requirements	<p>1.1 Conduct site survey and assessment for characteristics including soil, topography, drainage, and climate</p> <p>1.2 Document existing vegetation and built features including underground installations</p> <p>1.3 Identify and incorporate stakeholders requirements</p> <p>1.4 Identify and develop mitigation plan for risks associated with the landscape project</p>
2. Develop Landscape Design Concepts	<p>2.1 Develop design concepts based on site analysis and user needs using appropriate tools and techniques</p> <p>2.2 Incorporate sustainable and climate-responsive design principles</p> <p>2.3 Incorporate softscape and hardscape elements suited for functional and aesthetic requirements</p>

3. Prepare landscape plans and specifications	3.1 Prepare landscape layouts, drawings and 3D Model using appropriate tools 3.2 Prepare estimate of materials and construction details accurately 3.3 Review and refine designs based on client and supervisor feedback
---	---

RANGE STATEMENT	
Stakeholders may include but not limited to:	
<ul style="list-style-type: none"> • Client • User 	<ul style="list-style-type: none"> • Regulatory
Risks may include but not limited to:	
<ul style="list-style-type: none"> • Social • Economic 	<ul style="list-style-type: none"> • Environmental • Political
Landscape elements may include but not limited to:	
<ul style="list-style-type: none"> • Irrigation system • Water features • Gazebo 	<ul style="list-style-type: none"> • Lighting • Monuments
<i>Critical Aspects</i>	
<ul style="list-style-type: none"> • Demonstrate competencies to apply occupational health and safety procedures at work • Demonstrate Competencies in developing landscape design concepts, plan, lay out and specifications 	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> • Ethics and Integrity • Principles of landscape architecture (balance, unity, scale, proportion) • Principles of landscape design • Site analysis techniques • Sustainable landscaping concepts • Drafting and drawing interpretation • Different tools for drawing and design • Site-specific design considerations (microclimate, topography, soil, drainage) • Planting design principles • Integration of hardscape and softscape elements • Rainfall and drainage patterns • Existing vegetation and ecological assessment • Legal and regulatory constraints (zoning, environmental protection, building codes) • Cultural, historical, and community considerations • Cost estimation and feasibility analysis (cost-benefit analysis) • Preparation of design reports and presentations • Pest and disease management • Selection of hardscape materials (paving, decking, retaining walls) 	<ul style="list-style-type: none"> • Team Work • Communication • Problem Solving • Interpersonal Relationship • Creativity • Time Management • Innovation • Coordination • Entrepreneurship • Growth oriented • Empathy

<ul style="list-style-type: none">• Structural considerations in landscape features• Accessibility and universal design principles• Energy efficiency and microclimate adaptation• Scheduling design activities and milestones• Risk assessment and mitigation measures• Communication and Stakeholder Management• Conflict management• As-built drawings	
--	--

UNIT TITLE	Manage Landscape Development Works
DESCRIPTOR	This unit contains competencies required to plan landscape construction activities, supervise the execution of hardscape and softscape installation and perform monitoring following occupational health and safety procedures and environmental sustainability principles.
CODE	3142-U2-L4
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Plan Landscape Development	<p>1.1 Oversee construction tasks are sequenced according to approved plans</p> <p>1.2 Prepare estimates for materials, equipment, tools, and human resources based on design requirements</p> <p>1.3 Prepare operational workplan using appropriate <i>management tools</i></p>
2. Manage Resources and Materials	<p>2.1 Allocate resources and materials efficiently to meet work requirements and minimize waste</p> <p>2.2 Manage performance of team following standard procedure</p> <p>2.3 Manage inventory of resources and material following <i>relevant norms</i></p>

	2.4 Manage waste in accordance with safety, quality, and environmental norms
3. Supervise Installation of Hardscape and Softscape Elements	<p>3.1 Supervise site development works</p> <p>3.2 Supervise installation of <i>hardscape elements</i> in accordance with approved drawings, design and specifications</p> <p>3.3 Supervise installation of <i>softscape elements</i> in accordance with approved drawings, design and specifications</p> <p>3.4 Enforce occupational health and safety, quality, and environmental sustainability at all times</p>
4. Perform Periodic Monitoring of Works	<p>4.1 Inspect work quality against approved plans, specifications, and standards</p> <p>4.2 Identify and rectify defects and non-conformities in accordance with quality requirements</p> <p>4.3 Document and report the progress of works in line with organisational procedures</p>

RANGE STATEMENT

Softscape elements may include but not limited to:

<ul style="list-style-type: none"> • Plants • Soil and Growing Media • Hillocks • Water features 	<ul style="list-style-type: none"> • Planting system • Lawn • Thematic garden • Land management
--	---

<p>Hardscape elements may include but not limited to:</p> <ul style="list-style-type: none"> • Paved Surfaces & Circulation • Paving & Surfacing Materials • Outdoor Structures • Site Furniture & Fixtures • Drainage & Surface Control • Land management 	
<ul style="list-style-type: none"> • Structural Landscape Elements • Water Features • Boundary & Access Elements • Ancillary Hardscape Elements 	
<p>Relevant norms may include but not limited to:</p>	
<ul style="list-style-type: none"> • Procurement manual 	<ul style="list-style-type: none"> • Procurement rules and regulations
<p>Management tools may include but not limited to:</p>	
<ul style="list-style-type: none"> • MS projects 	<ul style="list-style-type: none"> • Asana
<p>Critical Aspects</p>	
<ul style="list-style-type: none"> • Demonstrate competencies to follow occupational health and safety procedures • Demonstrate competencies in preparing plans and design for landscape project • Demonstrate competencies in installation of softscape and hardscape elements applying principles of environmental sustainability 	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> • Ethics and Integrity • Landscape Construction Principles • Interpretation of Drawings & Specifications • Site Preparation & Earthworks 	<ul style="list-style-type: none"> • Team Work • Communication • Problem Solving • Interpersonal Relationship • Time Management

<ul style="list-style-type: none"> • Paving systems (concrete, stone, brick, pavers) • Foundations and base preparation for hardscape • Retaining walls (low-height landscape structures) • Edging, kerbs, and boundary treatments • Outdoor structures • Soil preparation and soil improvement techniques • Selection and planting methods of trees, shrubs, groundcovers, and turf • Mulching techniques • Protection of existing vegetation • Irrigation system components and layouts • Water efficiency and conservation practices • Drainage integration with landscape works • Integrated pest management • Sustainability in Landscape Construction • Documentation & Reporting • Occupational health and safety requirements • Quality assurance procedures • Relevant national and international Regulations 	<ul style="list-style-type: none"> • Innovation • Entrepreneurship • Growth oriented
--	---

UNIT TITLE	Manage Landscape Maintenance Works
descriptor	This unit contains competencies required to plan landscape maintenance activities, manage resources and material, handle maintenance of hardscape and softscape elements, manage irrigation and water efficiency systems and apply sustainable plant health management system following occupational health and safety procedures and environmental sustainability principles.
code	3142-U3-L4
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Plan Landscape Maintenance Programs	<p>1.1 Identify maintenance requirements</p> <p>1.2 Prepare maintenance plan as per the norms of the organization</p> <p>1.3 Prepare resource mobilization plan as per the norms of the organization</p>
2. Manage Resources and Materials	<p>2.1 Allocate resources based on maintenance plan</p> <p>2.2 Manage performance of team following organizational norms</p> <p>2.3 Mobilize materials, tools and equipment efficiently to meet work requirements and minimize waste</p> <p>2.4 Manage stock inventory following organizational norms</p>

	2.5 Manage waste in accordance with safety, quality, and environmental principles
3. Handle the Maintenance of Hardscape and Softscape	<p>3.1 Supervise maintenance of hardscape elements as per the maintenance plan</p> <p>3.2 Supervise maintenance of softscape elements as per the maintenance plan</p> <p>3.3 Enforce OHS and environmental- friendly measures</p>
4. Manage Irrigation and water Efficiency Systems	<p>4.1 Monitor the irrigation systems as per the organizational norms</p> <p>4.2 Implement water usage efficiency measures</p> <p>4.3 Conduct periodic maintenance of irrigation system</p>
5. Implement Sustainable Plant Health Management Practices	<p>5.1 Perform surveillance and assessment of plant health periodically</p> <p>5.2 Identify and manage pests, diseases, and weeds and nutrient deficiency</p> <p>5.3 Mitigate environmental impacts of maintenance practices</p>

RANGE STATEMENT	
Resources may include but not limited to:	
• Financial	Human resource

Materials may include but not limited to:	
• Plants	• Construction
Critical Aspects	
<ul style="list-style-type: none"> • Demonstrate competencies to follow occupational health and safety procedures • Demonstrate competencies to handle the maintenance of hardscape and Softscape • Demonstrate competencies to manage Irrigation and water efficiency systems and apply Integrated Pest Management 	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> • Ethics and Integrity • Maintenance of hardscape and Softscape Elements • Plant physiology and maintenance practices • Irrigation principles and water management • Integrated pest management (IPM) • Environmental sustainability principles • Landscape maintenance objectives and standards • Preventive vs corrective maintenance approaches • Maintenance scheduling and work planning • Integration of maintenance with design intent • Plant growth habits and maintenance requirements • Pruning techniques and timing 	<ul style="list-style-type: none"> • Team Work • Communication • Problem Solving • Interpersonal Relationship • Coordination • Time Management • Innovation • Entrepreneurship • Growth oriented

<ul style="list-style-type: none">• Lawn and turf maintenance practices• Fertilisation and soil health management• Weed identification and control methods• Plant health monitoring and diagnosis• Replacement and replanting strategies• Inspection of paved surfaces and structures• Identification of wear and damage• Cleaning and surface treatment methods• Drainage performance related to hardscape• Irrigation system components and operation• Scheduling irrigation based on climate and plant needs• Water efficiency and conservation practices• Detection and correction of irrigation faults• Maintenance of pumps, valves, filters, and emitters• Stormwater management in landscaped areas• Soil conservation and erosion control methods• Sustainable plant health management practices	
---	--

<ul style="list-style-type: none">• Use of native and climate-appropriate species• Organic and low-impact maintenance practices• Waste reduction, reuse, and composting• Environmental protection measures during maintenance• Resource & Maintenance Management	
--	--

ANNEXURE

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 the 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.

Bhutan Qualifications Framework (BQF)

Bhutan Qualifications Framework is an integrated national framework that outlines all types of qualification in Bhutan. As an established and nationally accepted instrument, the BQF has been benchmarked against international practices in terms of standards. The BQF aims to recognize all forms of learning systems, including formal, non-formal, and informal learning. It acknowledges technological advancements and recognizes contemporary modes of delivery. It covers a broad range of education systems including the TVET education.

Implementation of TVET Qualifications



* RPL = Recognition of Prior Learning

TVET Qualifications Levels

TVET Qualifications have seven levels as per the BQF, as follows:

Bhutan Qualifications Framework 2023

Table 2: Qualification Types and Levels Based on Education Sector.

BQF Level	Community Education	School Education	TVET	Higher Education	Monastic Education
8				Doctoral Degree	<i>Khewang</i> ຂେବଙ୍ଗ
7			Master's Degree Postgraduate Diploma Postgraduate Certificate	Master's Degree Postgraduate Diploma Postgraduate Certificate	<i>Tsugla Gongma</i> ସୁଗ୍ରାଙ୍ଗମା
6			Applied Degree	Bachelor's Degree Bachelor's Degree (Honours) Graduate Diploma Graduate Certificate	<i>Tsugla Wogma</i> ସୁଗ୍ରାଙ୍ଗମା
5			Advanced Diploma	Advanced Diploma	
4			Diploma	Diploma	
3		Bhutan Higher Secondary Education Certificate	Certificate 3		<i>Dringrim Gongma</i> ଦ୍ରିଙ୍ଗମା
2		Bhutan Certificate for Secondary Education	Certificate 2		<i>Dringrim Barma</i> ଦ୍ରିଙ୍ଗମା
1	ALC		Certificate 1		

Level Descriptors

The TVET Qualification levels are set based on the level descriptors, as defined in the BQF. The detail of the qualification level descriptor is as follow:

Level	Knowledge	Skills	Values	Application
	Knowledge that is:	Demonstrate skills that involve:	Demonstrate values that involve:	Applied in contexts that involve:
4	Broad theoretical, technical and operational	Selecting and applying a range of standard processes relevant to varied and sometimes unpredictable tasks Selecting and applying a range of solutions involving formulation of solutions to resolve complex issues Demonstrating a high level of proficiency in English and Dzongkha	Strong level of awareness of self and others; and an appreciation of belief system, role of social norms, and the importance of relationship building Application of ethical norms and legal rules in decision-making; and comprehending the correlation between values and behavior Commitment to own profession and quality of work	Stable tasks with predictable changes Broad guidance with some self-direction that requires sound judgement Taking some responsibility for planning and coordination with others
3	Theoretical with some technical and operational processes	Applying a range of standard processes to known but varied tasks Selecting and applying a range of solutions to familiar	Sound level of self-awareness and beliefs; and ability to apply social norms and	Stable tasks with some aspects of change General guidance and supervision that require

		<p>and unfamiliar problems</p> <p>Communicating effectively and clearly, both oral and written, in both English and Dzongkha</p>	<p>build relationships</p> <p>Application of a set of ethical norms</p> <p>Commitment to own field of interest and apply self-management of learning and performance</p>	<p>discretion and judgement</p> <p>Adapting to own behaviour to work with others</p>
2	Basic, factual and conceptual	<p>Applying standard processes relevant to carry out known tasks</p> <p>Applying a set of known solutions to solve simple and straightforward issues</p> <p>Using simple and direct exchange of information on familiar and routine matters</p> <p>Developing basic proficiency in Dzongkha and English</p>	<p>Some level of self-awareness and beliefs, and appreciation of social norms; and significance of relationships</p> <p>Awareness of ethical norms, and openness to different activities</p> <p>Developing own knowledge and skills</p>	<p>Structured and stable tasks</p> <p>General support and Supervision that require some discretion and judgement</p> <p>Collaboration with others to achieve goals</p>
1	Foundational, every day and general	<p>Applying operational literacy, numeracy skills required to carry out simple tasks</p> <p>Applying simple solutions to solve simple and straightforward everyday issues</p>	<p>Basic awareness of self, beliefs, and social norms; and understand the significance of relationships</p> <p>Basic awareness of</p>	<p>Highly structured tasks with close support and supervision</p> <p>Minimal Discretion and judgement</p>

		Communicating using everyday expressions and simple phrases in Dzongkha and English	fundamental ethical norms, basic civil rights, and responsibilities Willingness to understand tasks and motivated to implement them successfully	Readiness to work together and share knowledge with others
--	--	---	---	--

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 practices. 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 Technical & Vocational Education and Training Management Information System (TVET – MIS) both in terms of economic sector identification and that of the individual standard.

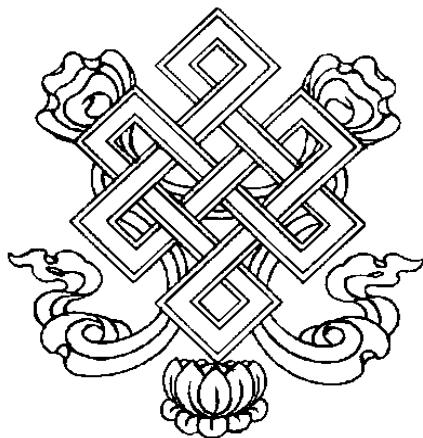
Coding the individual national competency standards

Coding the individual skills standard has a multiple purpose:

- to identify the level,
- to identify to which module the standard belongs,
- to identify in which order the standard is clustered within that module.

A job can include a number of competencies described in the national competency standards.

However, 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 module. Some standards are so complex that they need to stand alone.



TVET Quality Council
Bhutan Qualifications and Professionals Certification Authority
Chang Gidaphu
P.O. Box 1956, Thimphu
www.bqcpa.gov.bt