

# NATIONAL COMPETENCY STANDARDS FOR HEAVY VEHICLE DRIVER (CERTIFICATE 2)

## **TRANSPORTATION SECTOR**





## TECHNICAL & VOCATIONAL EDUCATION AND TRAINING (TVET) QUALITY COUNCIL BHUTAN QUALIFICATIONS AND PROFESSIONALS CERTIFICATION AUTHORITY THIMPHU, BHUTAN MAY 2025

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#### FOREWORD

The TVET Quality Council, BQPCA is pleased to present the National Competency Standards (NCS) for **Heavy Vehicle Driver, BQF Certificate 2**, which is developed in consultation with the field experts and trainers. The main objective of developing National Competency Standards is to set up a well-defined nationally recognized TVET Qualifications that will help in setting a benchmark for the TVET Qualifications in our country aligned to the international best practices.

The standards are developed to ensure that the TVET trainees possess the desired Skills, Knowledge and Attitude required by the industries. In order to ensure the relevancy of the competencies, the standards are developed in close consultation and partnership with industry experts and trainers from training institutes.

A training system based on National Competency Standards shall ensure that the training is relevant to the needs of the labour market. As a result, future TVET trainees will be better skilled to meet the needs and expectations of industries and employers. Such a positive impact on the employability of TVET graduates will enhance the reputation of the TVET system and make it attractive to the youths.

While acknowledging the existing level of cooperation and collaboration, the Council earnestly requests employers and

training providers to extend the fullest support and cooperation in development and implementation of the National Competency Standards. The ultimate objective is to build a competent and productive national workforce that will contribute to the socio-economic development of our country. We gratefully acknowledge the valuable contributions made by experts from industries and trainers during the consultation and validation processes of the NCS development. We further look forward to improved industry engagement and active participation of trainers in the development of a quality-assured demand driven TVET system.

Director BQPCA

#### ACKNOWLEDGEMENT

#### Date of Validation Date of Next Revision

:12<sup>th</sup> May 2025 :11<sup>th</sup> May 20230

The TVET Quality Council, Bhutan Qualifications and Professionals Certification Authority would like to express our deepest appreciation to the following industry and subject matter experts who have participated in revision and validation of National Competency Standards for Heavy Vehicle Driver:

Industry Experts Involved in Validation of NCS for HVD			
SN	Name	Designation	Working Agency
1	Tandin	Trainer	TTI Samthang
2	Deo Raj Barailey	Ex-Trainer	Freelance
3	Passang Dolley	Driver	Freelance
4	Pema Wangchuk	Motor Vehicle Inspector	BCTA
5	Sonam Wangdi	Motor Vehicle Inspector	BCTA
6	Tshering Choden	Driver	City Bus Service
7	Dendup Namgyal	Driver	City Bus Service

Indu	Industry Experts Engaged During the Revision of NCS for HVD			
SN	Name	Designation	Organization	
1	Druba	Trainer	TTI, Samthang	
2	Wangchuk Dorji	Driver	City Bus Service	
3	Nakphel	Driver	City Bus Service	
4	Deo Raj Baraily	Ex-trainer	Freelance	
5	Praveen Rai	Driver	Freelance	
6	Ram Kumar Gurung	Trainer	TTI, Samthang	
7	Nidup Dorjee	Training Director	Gyalung DTI	

Facilitator from the TVET Quality Council, BQPCA		
Prem Kumar Bhattarai	Program Officer	TVET QC, BQPCA

## PACKAGING OF QUALIFICATIONS





## OVERVIEW OF THE NCS FOR HEAVY VEHICLE DRIVER

	Unit Title	Element of Competence
1.	Carry Out Running Maintenance on Heavy Vehicle	<ul><li>1.1 Perform Minor Routine Maintenance</li><li>1.2 Perform Periodic Maintenance</li><li>1.3 Perform Troubleshooting</li></ul>
2.	Manage Accident and Emergency Situations	<ul><li>3.1 Respond to Emergencies</li><li>3.2 Provide Post-Incident Support</li><li>3.3 Respond in the Event of Vehicle Breakdown</li></ul>
3.	Operate Heavy Vehicle	<ul> <li>4.1 Drive Heavy Vehicle</li> <li>4.2 Transport Load</li> <li>4.3 Tow the Vehicle</li> <li>4.4 Follow Traffic Rules and Regulations While Operating Vehicle</li> </ul>

UNIT TITLE	Carryout Running Maintenance on Heavy Vehicle	
DESCRIPTOR	This unit covers the competencies required to carry out preventive maintenance of heavy vehicle following safety procedures at all times	
CODE	8332-U1-L2	
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA	
1. Perform Minor Routine Maintenance	<ul> <li>1.1 Use <i>tools and equipment</i> as per the job requirement</li> <li>1.2 Ensure the functionality of lighting system following standard procedure</li> <li>1.3 Ensure tyres are in proper condition following standard procedure</li> <li>1.4 Ensure the functionality of fuses following standard procedure</li> <li>1.5 Ensure cleanliness of vehicle following standard procedure</li> <li>1.6 Top up lubricants and fluid following standard procedure</li> </ul>	
2. Perform Periodic Maintenance	<ul> <li>2.1 Use <i>tools and equipment</i> as per the job requirement</li> <li>2.2 Conduct <i>periodic maintenance</i> following standard procedure</li> </ul>	

	2.3 Maintain log book and vehicle history records following standard procedure
3. Perform Troubleshooting	<ul> <li>3.1 Troubleshoot starting issues following standard procedure</li> <li>3.2 Troubleshoot engine overheating issues following standard procedure</li> <li>3.3 Troubleshoot fuel system issues following standard procedure</li> <li>3.4 Troubleshoot abnormal sound issues following standard procedure</li> <li>3.5 Troubleshoot lighting system issues following standard procedure</li> </ul>

RANGE STATEMENT		
Tools and equipment may include but	t not limited to:	
<ul> <li>Pressure gauge</li> <li>Hand tool set</li> <li>Grease gun</li> <li>SST (Special Service Tools)</li> <li>Air compressor</li> <li>Jack and handle</li> <li>Oil dispenser</li> <li>Wheel Wrench</li> </ul>		
Periodic maintenance may include but not limited to:		
<ul> <li>Maintain tyre pressure</li> <li>Change Coolant</li> <li>Change Engine oil</li> <li>Change Transmission fluid</li> <li>Service air cleaner</li> </ul>	<ul> <li>Greasing</li> <li>Change brake fluid</li> <li>Check and adjust Fan belt tension</li> <li>Bleed fuel</li> </ul>	

Starting issues may include but not limited to:		
<ul> <li>Discharged Battery</li> <li>Loose Connection</li> <li>Lack of Fuel</li> </ul>	<ul> <li>Blown off fuse</li> <li>Faulty Starter Motor</li> <li>Faulty Alternator</li> </ul>	
Engine overheating issues may inclue	de but not limited to:	
<ul><li>Low Engine Oil Level</li><li>Loose Fan Belt</li><li>Choked Air Cleaner</li></ul>	<ul><li>Broken Hoses</li><li>Faulty Thermostat</li><li>Choked Radiator</li></ul>	
Fuel system issues may include but r	not limited to:	
<ul><li>Choked Fuel Filter</li><li>Leakage</li></ul>	Air-Trapped	
Abnormal sound issues may include	but not limited to:	
<ul> <li>Loose Fan Belt</li> <li>Worn out Wheel Bearing</li> <li>Suspension Issue</li> <li>Brake Issue</li> <li>Lack of lubricants</li> </ul>	<ul> <li>Misalignment of Propeller Shaft</li> <li>Loose Gearbox Mounting Bolt</li> </ul>	
Lighting system may include but limit	ted to:	
<ul><li>Blow off fuse</li><li>Blown off bulb</li><li>Loose Connection</li></ul>	<ul><li>Faulty battery</li><li>Short Circuit</li></ul>	
Critical Aspects		
<ul> <li>Demonstrate compliance with safety regulations applicable to work operations at all times</li> <li>Demonstrate competencies to perform minor routine maintenance, periodic maintenance and troubleshooting of vehicle</li> </ul>		

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul> <li>Ethics and Integrity</li> <li>OHS regulation</li> <li>Basic First Aid</li> <li>Pollution control</li> <li>Minor maintenance procedures</li> <li>Fundamentals of vehicle system</li> <li>Lubricants and fluids</li> <li>Vehicle Owner's Manual</li> <li>Environment rules and regulation</li> <li>5S</li> <li>Waste management</li> </ul>	<ul> <li>Team Work</li> <li>Communication</li> <li>Problem Solving</li> <li>Interpersonal Relationship</li> <li>Creativity</li> <li>Time Management</li> <li>Innovation</li> </ul>

UNIT TITLE	Manage Accident and Emergency Situation	
DESCRIPTOR	This unit covers the competencies required to respond to emergency incidents, follow-up support and assistance and communicate to concerned agencies during accident and emergency	
CODE	8332-U2-L2	
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA	
1. Respond to Emergencies	<ul> <li>1.1 Assess <i>emergency situations</i> following standard procedure</li> <li>1.2 Take <i>actions</i> based on the criticality of the emergency situation</li> <li>1.3 Secure the accident site or vehicle following standard procedure</li> </ul>	
2. Provide Post- Incident Support	<ul> <li>2.1 Report incident to the <i>relevant agencies</i> following standard procedure</li> <li>2.2 Arrange medical assistance and support in accordance with workplace procedures</li> <li>2.3 Apply basic first aid as per the job requirement following standard procedures</li> </ul>	

3. Respond in the Event of Vehicle Breakdown	<ul> <li>3.1 Secure the vehicle following standard procedure</li> <li>3.2 Diagnose the vehicle faults following standard procedure</li> <li>3.3 Take actions to correct the faults following</li> </ul>
	standard procedure

RANGE STATEMENT		
Emergency situations may include but not limited to:		
<ul><li>Crash</li><li>Natural Hazard</li></ul>	<ul><li>Health issues</li><li>Bad Road</li></ul>	
Actions may include but not limited to:		
<ul><li>Transporting of victim to the nearest hospitals</li><li>Informing relevant authorities</li></ul>	<ul><li>Securing the accident site and vehicle</li><li>Providing first aid</li></ul>	
Relevant agencies may include but not limited to		
<ul><li>Traffic Police</li><li>Insurance</li></ul>	• Health	
Critical Aspects		
<ul> <li>Demonstrate compliance with safety regulations applicable to work operations at all times</li> <li>Demonstrate competencies in responding to emergency situations</li> <li>Demonstrate competencies to apply basic first aid</li> </ul>		

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul> <li>Ethics and Integrity</li> <li>OHS Rules and regulations</li> <li>First Aid</li> <li>Emergency situations</li> <li>Procedure to be followed in the event of emergency</li> <li>Problem that may arise during emergency situations</li> <li>Emergency numbers</li> </ul>	<ul> <li>Team Work</li> <li>Communication</li> <li>Problem Solving</li> <li>Interpersonal Relationship</li> <li>Creativity</li> <li>Time Management</li> <li>Innovation</li> <li>Stress management</li> </ul>

UNIT TITLE	Drive Heavy Vehicle	
DESCRIPTOR	This unit covers the competencies required to drive heavy motor vehicle under different environment conditions and following traffic rules and regulations	
CODE	8332-U3-L2	
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA	
1. Drive Heavy Vehicle	<ul> <li>1.1 Conduct pre-driving checks following standard procedure</li> <li>1.2 Perform cockpit drill following standard procedure</li> <li>1.3 Apply system of vehicle control (SOVC) following standard procedure</li> <li>1.4 Move off, steer and stop HMV following standard procedure</li> <li>1.5 Apply <i>Hazard Action Plan</i> following standard procedure</li> <li>1.6 <i>Reverse</i> HMV following standard procedure</li> <li>1.7 Negotiate intersections and turns following standard procedure</li> <li>1.8 Overtake and pass the vehicle following standard procedure</li> <li>1.9 Drive HMV at night and in poor light condition following standard procedure</li> </ul>	

	1.10 Apply defensive driving following		
	standard procedure		
	1.11 Drive HMV on difficult roads following		
	standard procedure		
	·		
	1.12 Drive HMV on highway and town areas		
	following standard procedure		
	1.13 Apply eco-driving techniques following		
	standard procedure		
	1.14 Park the vehicle following standard		
	procedure		
	1.15 Perform post operation checks following		
	standard procedure		
2. Transport Load	2.1 Perform loading of goods following standard		
	procedure		
	2.2 Perform load tying following standard		
	procedure		
	2.3 Apply cautionary signs while transporting		
	overlapped/oversized loads following		
	standard procedure		
	2.4 Drive loaded vehicle depending upon types		
	and weight of loads following standard		
	procedure		
	2.5 Perform unloading as per job requirement		
	following standard procedure		

		2.6 Obtain and maintain <i>consignment documents</i> following standard procedure
3.	Tow the Vehicle	<ul> <li>3.1 Perform pre-towing procedures following standard procedure</li> <li>3.2 Tow the vehicle following standard procedure</li> <li>3.3 Perform post-towing operations following standard procedure</li> </ul>
4.	Follow Traffic Rules and Regulations While Operating Vehicle	<ul> <li>4.1 Comply with <i>road traffic signs and road markings</i> at all times</li> <li>4.2 Maintain up to-date <i>documents</i> as per the job requirement</li> <li>4.3 Cooperate with <i>any law enforcers</i> and other as per the job requirement following standards procedure</li> <li>4.4 Follow other road safety rules and regulations</li> </ul>

RANGE STATEMENT			
Consignment documents may include but not limited to:			
• Bills	• Challan		
Hazard action plan may include but not limited to			
<ul><li>Identify</li><li>predict</li></ul>	<ul><li>decide</li><li>act</li></ul>		

Reverse may include but not limited to:				
<ul><li>Straight</li><li>Zig Zag</li><li>Narrow</li></ul>	<ul><li>Uphill</li><li>Downhill</li></ul>			
Parking may include but not limited to:				
<ul><li>Angle</li><li>Parallel</li></ul>	Perpendicular			
Difficult roads may include but not limi	ted to:			
<ul> <li>Snowy</li> <li>Icy</li> <li>Muddy</li> <li>Rough</li> <li>Slope</li> <li>Narrow</li> </ul>	<ul><li>River crossing</li><li>Sandy</li><li>Foggy</li><li>Wet</li></ul>			
Document may include but not limited	to:			
<ul> <li>Driving License</li> <li>Registration Certificate</li> <li>Road Worthiness Certificate</li> <li>Emission Test Certificate</li> </ul>	<ul> <li>Insurance Certificate</li> <li>Route Permit</li> <li>Movement Order</li> <li>Vehicle Logbook</li> </ul>			
Any law enforcers may include but not limited to:				
<ul> <li>BCTA Officials</li> <li>BAFDA</li> <li>Forest Officials</li> <li>Revenue and Custom Officials</li> </ul>	<ul><li>Traffic Police</li><li>Police</li><li>Immigration Officials</li></ul>			
Road Traffic signs and signals include but not limited to				

<ul> <li>Mandatory signs</li> <li>Cautionary signs</li> <li>Informatory signs</li> <li>Traffic lights</li> </ul>	<ul><li>Road marking</li><li>Mile post</li><li>Hazard signs</li></ul>		
Road Traffic rules and regulation may	include but not limited to:		
<ul> <li>Parking</li> <li>Wearing of seat belts</li> <li>Using of cell phone while driving</li> <li>Excessive noises</li> <li>Excessive smoke</li> <li>Dazzling light</li> <li>Tinted glasses</li> <li>Fatigue driving</li> </ul>	<ul> <li>Avoiding driving under the</li> <li>influence of substance abuse or alcohol</li> <li>Over loading</li> <li>Over speeding</li> <li>Unnecessary Honking</li> </ul>		
Critical Aspects			
<ul> <li>Demonstrate compliance with safety regulations applicable to work operations at all times</li> <li>Demonstrate competencies in road safety rules and regulations</li> </ul>			

- Demonstrate competencies in road safety rules and regulations
- Demonstrate competencies in driving heavy vehicle following rules and regulations
- Demonstrate competencies in using cautionary signs while driving HMV with overlapped/oversized/hazardous loads following standard practices

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul> <li>Ethics and Integrity</li> <li>OHS regulations</li> <li>Search technique</li> <li>Signaling, cornering and gear changing</li> <li>System Of Vehicle Control (SOVC)</li> <li>Driving ethics</li> </ul>	<ul> <li>Team Work</li> <li>Communication</li> <li>Problem Solving</li> <li>Interpersonal Relationship</li> <li>Creativity</li> </ul>

<ul> <li>Courtesy driving</li> <li>Grooming</li> <li>Load capacity</li> <li>Eco-driving</li> <li>Road Traffic signs and signals</li> <li>Road markings</li> <li>Road safety and transport regulations</li> <li>Defensive driving techniques</li> <li>Eco-driving techniques</li> <li>Different law Enforcers</li> <li>Traffic violations and penalties</li> <li>GPS tracking</li> </ul>	<ul> <li>Time Management</li> <li>Innovation</li> <li>Patience</li> </ul>
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### 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**

#### 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	Khewang ঋত্মজ্জান্দুবন্য
7			Master's Degree Postgraduate Diploma Postgraduate Certificate	Master's Degree Postgraduate Diploma Postgraduate Certificate	Tsugla Gongma बाझुषाभ्यषार्थीरः ब्रा
6			Applied Degree	Bachelor's Degree Bachelor's Degree (Honours) Graduate Diploma Graduate Certificate	Tsugla Wogma बाङ्गुवाप्यवार्थवा ह्या
5			Advanced Diploma	Advanced Diploma	
4			Diploma	Diploma	
3		Bhutan Higher Secondary Education Certificate	Certificate 3		Dringrim Gongma त्रवैर-रेब्र'र्वे/र-का
2		Bhutan Certificate for Secondary Education	Certificate 2		Dringrim Barma এন্মীন:ইঞ্জায়ন্যজ্ঞা
1	ALC		Certificate 1		

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

## **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

	Knowledge	Skills	Values	Application
Level	Knowledge that is:	Demonstrate skills that involve:	Demonstrate values that	Applied in contexts
Level	•			Applied in
			profession and quality of work	
3	Theoretical with some technical and	Applying a range of standard processes	Sound level of self- awareness	Stable tasks with some

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

required to carry out simple tasks Applying simple solutions to solve simple and straightforward everyday issues Communicating using everyday expressions and simple phrases in Dzongkha and English	and social norms; and understand the significance of relationships Basic awareness of fundamental ethical norms, basic civil rights, and responsibilities Willingness to understand tasks and motivated to implement them successfully	tasks with close support and supervision Minimal Discretion and judgement Readiness to work together and share knowledge with others
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#### 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 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 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.



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