

NATIONAL COMPETENCY STANDARDS FOR AUTOMOTIVE TECHNOLOGIST (DIPLOMA)

TVET QUALITY COUNCIL BHUTAN QUALIFICATIONS AND PROFESSIONALS CERTIFICATION AUTHORITY THIMPHU, BHUTAN: JAN 2024

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FOREWORD

The TVET Quality Council, BQPCA is pleased to present the National Competency Standards (NCS) for **Automotive Technologist**, **Diploma** which is developed in consultation with the industries 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 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 industries. 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

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Overview of National Competency Standards

UNIT TITLE	ELEMENTS OF COMPETENCE
1. Carryout diagnosis and servicing of Chassis and undercarriage components	 1.1 Perform troubleshooting of brake system 1.2 Perform troubleshooting of suspension system 1.3 Perform troubleshooting of steering system
2.Carryout diagnosis and servicing of engine systems	2.1 Perform troubleshooting of engine system faults
.,	2.2 Perform troubleshooting of fuel system
	2.3 Perform troubleshooting of lubrication and cooling system
	2.4 Perform troubleshooting of air intake and air induction system
	2.5 Perform troubleshooting of emission control system
3.Carryout diagnosis and servicing of Power Train System	3.1 Perform troubleshooting of automatic transmission system
	3.2 Perform troubleshooting manual transmission/ transaxle system
	3.3 Perform troubleshooting of driveline system
4. Carryout diagnosis and servicing of electrical and electronic systems	4.1 Perform troubleshooting of electrical system components
	4.2 Perform troubleshooting of Ignition and Starting system
	4.3 Perform troubleshooting of Battery and Charging system
	4.4 Perform troubleshooting of Heating Ventilation and Mobile Air Conditioning system
	4.5 Perform troubleshooting Electric Vehicle

UNIT TITLE :	Carryout diagnosis and servicing of Chassis and Undercarriage components	
DESCRIPTOR :	This unit covers the competencies required to service brake, suspension and steering systems as per the standard procedures following safety at all times.	
CODE :	3115-U1-L4	
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA	
 Perform troubleshooting of brake system 	1.1 Identify and use Personal Protective Equipment as per the job requirement	
	1.2 Use <i>tools and equipment</i> as per the job requirement following standard procedures	
	 Analyze the technical specifications for required details to perform the task following standard procedures 	
	1.4 Diagnose the brake system fault as per the job requirement following standard procedures	
	1.5 Service the brake system as per the job requirement following standard procedures.	
	 Diagnose Anti-Lock Braking System (ABS) faults as per the job requirement standard procedures 	
	1.7 Perform troubleshooting activities as per the manufacturer's specification	
	1.8 Conduct post-delivery inspection as per the job requirement following standard procedure	
	1.9 Document the records as per the job requirement following standard procedures	
2. Perform troubleshooting of suspension system	2.1 Use tools and equipment as per the job requirement following standard procedures	

	2.2 Analyze the technical specifications for required details to perform the task following standard procedures
	2.3 Diagnose the <i>suspension system faults</i> as per the job requirement following standard procedures
	2.4 Perform troubleshooting activities as per the manufacturer's specification
	2.5 Service the suspension system as per the job requirement following standard procedures
	2.6 Conduct post-delivery inspection as per the job requirement following standard procedure
	2.7 Document the records as per the job requirement following standard procedures
3. Perform troubleshooting of steering	3.1 Perform wheel alignment and balancing as per the job requirement following standard procedures
system	3.2 Diagnose <i>steering system faults</i> as per the job requirement following standard procedures
	3.3 Perform troubleshooting activities as per the manufacturer's specifications
	3.4 Service <i>steering system</i> as per the job requirement following standard procedures
	3.4 Service steering system as per the job requirement following standard procedures3.5 Conduct post-delivery inspection as per the job requirement following standard procedure

RANGE STATEMENT Personal Protective Equipment may include but not limited to: Hand glove Work Dress Mask Safetv shoe • • Helmet Tools and equipment may include but not limited to: Vehicle Hand tool set • **Special Servicing tools Diagnostic scanner** • • Steering Wheel Holder Brake Fluid tester • Camber, Caster, Kingpin Hydraulic Jack • Gaude Safetv Stands • Car lifts Turn Table • • Wheel Alignment Machine • Brake system faults may include but not limited to: Booster air leak ABS malfunction • • Master cylinder hydraulic oil • Electronic parking Brake • harness fault leakage Caliper dragging • Wheel Cylinder Leakage • Brake Shoe and Brake Pad Parking brake cable breakage • Worn out Brake services may include but not limited to: Adjustment Bleeding • Refurbishment Calibration • Replacement • Suspension system faults may include but not limited to: Arms and linkages deformation Stabilizer bar bush worn out • • Bush worn out • Coil Spring damper worn out • Low tension of coil spring, leaf Torsion bar breakage • • spring and torsion bar Misalignment •

Upper and lower ball joint free play
Services of suspension system may include but not limited to:
 Replacement
 Alignment
Steering system faults may include but not limited to:

 Steering wheel vibration Abnormal sound Toe-in and Toe-out Faulty Sensors 	 Tie-rod end worn out Steering rack end ball joint free play Steering Gearbox backlash Oil leakage
Steering system may include not li	imited to:
 Manual steering system Electronic power steering system 	Hydraulic power steering system
Critical Aspects:	
 Demonstration of occupational workplace. 	health and safety practices at
 Diagnosis of chassis and underconcedures 	arriage components following safety

procedures.

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
 Ethics and Integrity Occupational Health and Safety (OHS) regulations First Aid Chassis components Principles of hydraulic brake system Principles of steering system Symptoms and causes of defective steering, suspension and brake system Diagnostic steps Properties of hydraulic oil Vehicle homologation norms Estimation and costing Manufacturers and vehicle identification Relevant rules and regulations Waste management 	 Team work Communication Negotiation Patience Creativity Problem solving Time management

UNIT TITLE :	Carryout diagnosis and servicing of engine systems
DESCRIPTOR:	This unit covers the competencies required to service engine and emission control systems as per the standard procedures following safety at all times.
CODE :	3115-U2-L4
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
 Perform troubleshooting of engine 	1.1 Identify and use Personal Protective Equipment as per the job requirement.
system faults	1.2 Use <i>tools and equipment</i> as per the job requirement following standard procedures
	 Analyze the technical specifications for required details to perform the task following standard procedures
	1.4 Obtain and interpret the measurement data clearly and accurately as per the job requirement following standard procedures
	1.5 Diagnose the engine faults as per the job requirement following standard procedures
	 Perform troubleshooting activities as per the manufacturer's specification.
	1.7 Overhaul the engine as per the job requirement following standard procedures
	1.8 Test run the engine as per the job requirement following standard procedures
	1.9 Conduct post-delivery inspection as per the job requirement following standard procedure
	1.10 Document the records as per the job requirement following standard procedures

2.	Perform troubleshooting of fuel system	2.1 Perform servicing of petrol fuel system as per the job requirement following standard procedures
		2.2 Perform servicing of Common Rail Direct Injection (CRDi) system as per the job requirement following standard procedures
		2.3 Diagnose the <i>fuel system faults</i> as per the job requirement following standard procedures
		2.4 Perform troubleshooting activities as per the manufacturer's specification.
		2.5 Conduct post-delivery inspection as per the job requirement following standard procedure
		2.6 Document the records as per the job requirement following standard procedures
3. Perform troubleshooting of lubrication	3.1 Analyze the technical specifications for required details to perform the task following standard procedures	
	system	3.2 Service lubrication and cooling system components as per the job requirement following standard procedures
		3.3 Diagnose the <i>lubrication and cooling</i> <i>system faults</i> as per the job requirement following standard procedures
		3.4 Perform troubleshooting activities as per the manufacturer's specification.
		3.5 Conduct post-delivery inspection as per the job requirement following standard procedure
		3.6 Document the records as per the job requirement following standard procedures
4.	Perform troubleshooting of air intake and induction system	4.1 Analyze the technical specifications for required details to perform the task following standard procedures

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	4.2 Use <i>tools and equipment</i> as per the job requirement following standard procedures	
	4.3 Perform servicing of throttle body as per the job requirement following standard procedures	
	4.4 Perform servicing of turbo and super charger system as per the job requirement following standard procedures.	
	4.5 Diagnose the air intake and forced induction system faults as per the job requirement following standard procedures	
	4.6 Perform troubleshooting activities as per the manufacturer's specification.	
	4.7 Conduct post-delivery inspection as per the job requirement following standard procedure	
	4.8 Document the records as per the job requirement following standard procedures	
5. Perform troubleshooting of emission	5.1 Perform risk assessment of the emissions as per the job requirement following standard procedures	
	5.2 Service <i>emission control components</i> as per the job requirement following standard procedures.	
	5.3 Diagnose <i>emission control components faults</i> as per the job requirement.	
	5.4 Perform troubleshooting activities as per the manufacturer's specification.	
	5.5 Document the records as per the job requirement following standard procedures	

RANGE STATEMENT		
Personal Protective Equipment may include but not limited to:		
Hand gloveMask	Work DressSafety shoe	

Helmet	
Tools and equipment may include	but not limited to:
 Engine compression gauge Special Service tools Diagnostic Scanner Straight edge gauge Vernier Caliper Spring tension Gauge Valve spring compressor Exhaust Gas Analyzer Multi meter Oil dispenser Dial Gauge Magnetic Stand 	 Vehicle Cylinder bore gauge Feeler gauge Timing light Micro meter Piston ring compressor Fuel pressure gauge Filter clamp Plasti gauge Torque Wrench V-block Surface table
Blown out Cylinder head	Worn out Piston Ring
 Bend Connecting rod 	 Bent Crank shaft Cylinder bead Warpage
 Worn out Bearing 	
Bent Valve	
Fuel System Fault may include but	not limited to:
Low pressure	Blocked injector
 Filter choke Evel line leakage 	 Malfunction of fuel pressure regulator
 Injection timing 	 Faulty fuel pump
 Short circuit and open circuit 	 Faulty Sensors
Lubrication and Cooling System F	ault may include but not limited
to:	
Overheating	Thermostat struck
 Internal leakage 	 Low/high oil pressure faulty oil
Lose fan belt tension	pump
Faulty oil pressure control	 Incorrect oil viscosity
Air intake and Forced Induction Sv	stem Fault may include but not
limited to:	
Choked air filter	Throttle Position sensors
 Intake manifold leakage 	 Faulty turbo charger
Dirty throttle valve	 Faulty Idle Air Control Valve Choked Inter cooler

 Malfunction of Mass Air Flow (MAF) sensors Manifold Absolute Pressure (MAP) Sensors 	Intake Air Temperature sensor
Emission control component's fau	It may include but not limited to:
 Unusual exhaust gas and sound Less pulling power 	 Abnormal fuel consumption High emission of hydrocarbon, nitrogen oxide and Carbon Monoxide
Emission control components may	v include but not limited to:
 Exhaust gas recirculation Valve Diesel Particulate Filter Positive Crank Case ventilation valve Secondary Air injection 	 Catalytic converter Selective catalytic reductions Charcoal Canister Canister purge valve Sensors Muffler
Critical Aspects:	
Demonstration of occupational	health and safety practices at

- Demonstration of occupational health and safety practices at workplace.
- Diagnosis of engine system fault following standard procedures.

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
 Ethics and Integrity OHS regulations First Aid Functions and principles of engine Manufacturer's service manual book Engine capacity Faulty engine signals Engine management system Emission control system Estimation and costing Cooling system Lubrication system 	 Team work Communication Leadership Negotiation Patience Creativity Problem solving Time management

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- Fuel system Waste management

UNIT TITLE :	Carryout diagnosis and servicing of power train system			
DESCRIPTOR :	This unit covers the competencies required to service auto transmission and continuously variable transmission system as per the standard procedures following safety at all times.			
CODE :	3115-U3-L4			
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA			
1. Perform troubleshooting of automatic	1.1 Identify and use <i>Personal Protective Equipment</i> as per the job requirement.			
transmission system	1.2 Use <i>tools and equipment</i> as per the job requirement following standard procedures			
	1.3 Analyze the technical specifications for required details to perform the task following standard procedures			
	1.4 Diagnose the <i>automatic transmission</i> <i>system faults</i> as per the job requirement following standard procedures			
	1.5 Perform troubleshooting activities as per the manufacturer's specification.			
	1.6 Conduct periodical maintenance as per the job requirement following standard procedures.			
	1.7 Overhaul the automatic transmission system as per the job requirement following standard procedures			
	1.8 Conduct post-delivery inspection as per the job requirement following standard procedure			

	1.9 Document the records as per the job requirement following standard procedures
2. Perform troubleshoot of Manual	ting 2.1 Analyze the technical specifications for required details to perform the task following standard procedures
Transmission/ transaxle system	In/ 2.2 Diagnose the manual transmission/transaxle system faults as per the job requirement following standard procedures
	2.3 Perform troubleshooting activities as per the manufacturer's specification.
	2.4 Overhaul the manual transmission/transaxle system as per the job requirement following standard procedures
	2.5 Conduct post-delivery inspection as per the job requirement following standard procedure
	2.6 Document the records as per the job requirement following standard procedures
3. Perform troubleshoot of driveline	3.1 Analyze the technical specifications for required details to perform the task following standard procedures
system	3.2 Diagnose the <i>driveline system faults</i> as per the job requirement following standard procedures
	3.3 Perform troubleshooting activities as per the manufacturer's specification.
	3.4 Overhaul the differential assembly and transfer case as per the job requirement following standard procedures
	3.5 Conduct post-delivery inspection as per the job requirement following standard procedure
	3.6 Document the records as per the job requirement following standard procedures

RANGE STATEMENT			
Personal Protective Equipment ma	ay include but not limited to:		
Hand gloveMaskHelmet	Work DressSafety shoe		
Tools and Equipment may include	but not limited to:		
 Hand tool set Special service tool Vernier caliper Feeler gauge V-block ATF changer Torque Wrench Automatic transmission system fato:	 Power tools Transmission Jack Bearing puller Axle puller Dial gauge Bench vice Hydraulic jack ults may include but not limited 		
AT Gear change shock AT Gear change time lag AT Gear change shock AT Gear change time lag Faulty Inhibitor Switch Manual transmission/Transaxle system faults may include but not limited to:			
 Transmission bearing noise Gear Breakage Worn out detents 	Faulty SynchronizerGear worn out		
Driveline system faults may includ	e but not limited to:		
 Clutch disc worn out Propeller shaft run out Differential noise Cross bearing worn out 	 Axle Shaft run out CV joint leakage Transfer case defective 		
Critical Aspects:			
 Demonstration of occupational workplace. 	health and safety practices at		
Diagnosis of power train system	following standard procedures.		

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS		
 Ethics and Integrity OHS regulations First Aid Continuously Variable Transmission mechanisms Basic Fluid Mechanics Pascal's law Dual clutch transmission system Planetary gear transmission system Working principles of power train system Working principle of limited slip differential Principles of torque converter Calculation of gear ratio Transmission lubricants/fluids classification and grading Waste Management 	 Team work Communication Negotiation Patience Creativity Problem solving Time management 		

UNIT TITLE :	Carryout diagnosis and servicing of electrical and electronic systems			
DESCRIPTOR :	This unit covers the competencies required to perform replacement of electronic control unit and vehicle electrical system as per the standard procedures following safety at all times.			
CODE :	3115-U4-L4			
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA			
1. Perform troubleshooting of electrical system components	 1.1 Use tools and equipment as per the job requirement following standard procedures 1.2 Analyze the technical specifications for required details to perform the task following standard procedures 1.3 Diagnose vehicle electrical system faults as per the job requirement following standard procedures 1.4 Perform troubleshooting activities as per the manufacturer's specification. 1.5 Troubleshoot vehicle lighting system as per the job requirement following standard procedures 1.6 Troubleshoot central body electrical and electronics system as per the job requirement following standard procedures 1.7 Replace sensors as per the job requirement following standard procedures 1.8 Replace electrical faulty components as per the job requirement following standard procedures 			
	1.9 Conduct post-delivery inspection as per the job requirement following standard procedure			

		1.10 Document the records as per the job requirement following standard procedures			
2.	Perform troubleshooting of ignition and starting system	2.1 Analyze the technical specifications for required details to perform the task following standard procedures			
		2.2 Diagnose <i>starting system faults</i> as per the job requirement following standard procedures			
		2.3 Diagnose pre-heating system following standard procedures			
		2.4 Diagnose <i>ignition system faults</i> following standard procedures			
		2.5 Perform troubleshooting activities following standard procedures			
		2.6 Conduct post-delivery inspection as per the job requirement following standard procedure			
		2.7 Document the records as per the job requirement following standard procedures			
3.	Perform troubleshooting of battery and charging system	3.1 Analyze the technical specifications for required details to perform the task following standard procedures			
		3.2 Diagnose <i>battery and charging system faults</i> as per the job requirement following standard procedures			
		3.3 Perform troubleshooting activities following standard procedures			
		3.4 Conduct post-delivery inspection as per the job requirement following standard procedure			
		3.5 Document the records as per the job requirement following standard procedures			
4.	Perform troubleshooting of Heating Ventilation and Mobile Air-	4.1 Diagnose <i>air-conditioning system faults</i> as per the job requirement following standard procedures			

conditioning system	4.2 Diagnose <i>heating and ventilation system faults</i> following standard procedures
	4.3 Perform troubleshooting activities following standard procedures
	4.4 Conduct post-delivery inspection as per the job requirement following standard procedure
	4.5 Document the records as per the job requirement following standard procedures
5. Perform troubleshooting of Electric Vehicle	5.1 Identify and use <i>Personal Protective Equipment</i> as per the job requirement.
	5.2 Use <i>tools and equipment</i> as per the job requirement following standard procedures
	5.3 Perform safe shutdown of high voltage system following standard procedures
	5.4 Check high voltage harness system following standard procedures
	5.5 Diagnose <i>high voltage system components faults</i> following standard procedures
	5.6 Perform EV charging following standard procedures
	5.7 Perform troubleshooting activities following standard procedures
	5.8 Conduct post-delivery inspection as per the job requirement following standard procedure
	5.9 Document the records as per the job requirement following standard procedures

RANGE STATEMENT			
Personal Protective Equipment ma	ay include but not limited to:		
Hand gloveMaskHelmet	Work DressSafety shoe		
Tools and equipment may include	but not limited to:		
 Hand tool set Special service tool 	Power tools Oscilloscope		
but not limited to:	system components may include		
 Hand tool set Special service tool Power tools Vehicle Electrical System fault material 	 Multi-meter Diagnostic Scanner Test lamp y include but not limited to: 		
 Blown fuse Faulty wire connections and circuit Faulty lamps Central body electrical and electro limited to: 	 Loose Connections Faulty Self-starter Faulty Alternator Damage of battery cell 		
 Sun roof system Power window system Infotainment System Wiper and washer system Instrument Panel Control system 	 Indicator Alarm and immobilizer system Power mirror and Power seat system Central Locking system Supplement Restraint System (SRS) 		
Starting system faults may include but not limited to:			
 Self-starter fault Faulty relay Starting system components may 	 Short circuit Faulty key fob include but not limited to: 		
ECUWire Harness	Push Button SwitchKey fob		

Self -starter	Battery			
 Clutch position switch 	Starter relay			
Pre-heating system components may include but not limited to:				
Glow Plug	Timer			
Relay	Wire harness			
Ignition system faults may include	but not limited to:			
Misfire	Knocking			
 Faulty Ignition timing 	Short Circuit			
 Faulty ignition coil 	 Faulty spark plug 			
Battery and charging system faults	s may include but not limited to:			
Faulty alternator	Corroded battery terminal			
 Damage of battery cell 	 Faulty fusible links/fusses 			
Loose drive belt				
Air-conditioning system faults may	/ include but not limited to:			
Faulty compressor	Faulty pressure switch			
Leakage gas	 Faulty wire connections 			
Choked AC filter	 Faulty blower motor resister 			
Heating and Ventilation system fau to:	Ilts may include but not limited			
 Coolant leakage 	Choked air filter			
 Clogged heater core 	 Defective actuators 			
 Faulty blower motor 	 Faulty blower motor switch 			
Blower motor resistor				
Personal Protective Equipment for to:	EV may include but not limited			
Current resistant glove	Face shield			
Goggle	 Safety shoe 			
 Insulation mat 				
Tools and Equipment for EV may include but not limited to:				
Insulated tool set	Electric Car Hydraulic Jack			
 Insulated Mini socket set 	Crimping tools			
Multi-Meter	Diagnostic scanner			
 High Voltage tester 	Scissor Jack			
 Mega Ohm Tester 	Battery pallet			
High Voltage system component faults may include but not limited to:				

 Faulty DC-DC converters Faulty battery components Power leakage Faulty inverter On-board charger 	 Malfunction of HVAC system Faulty regenerative braking system Faulty electronic control unit Faulty electric motor 			
Critical Aspects:				
 Demonstration of occupational workplace. 	health and safety practices at			

• Diagnosis of electronics and electrical systems of vehicle following standard procedures.

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS		
 Ethics and Integrity OHS regulations First Aid Basic electrical concepts Vehicle Electrical System components Wire color coding Wiring diagram Basics of hybrid Electric Vehicles Basics of Electric Vehicle technology Battery Management System Functions of Spiral Cable/clock spring Component's specification Sensors and its functions Principles of heat transfer Working principles of mobile air conditioning system Types of refrigerants Latent heat Heat co-efficient systems Waste Management 	 Team work Communication Negotiation Patience Creativity Problem solving Time management 		

ANNEXURE

1.1. 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.

1.2. 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.

1.3. 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.

1.4. Implementation of TVET Qualifications



* RPL = Recognition of Prior Learning

1.5. TVET Qualifications Levels

TVET Qualifications have seven levels as per the BQF. The seven levels are as follows (screenshot from BQF document)

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 ঝান্যজান্যন্যা
7			Master's Degree Postgraduate Diploma Postgraduate Certificate	Master's Degree Postgraduate Diploma Postgraduate Certificate	Tsugla Gongma बाझुबा'थवा'र्वार- बा
6			Applied Degree	Bachelor's Degree Bachelor's Degree (Honours) Graduate Diploma Graduate Certificate	<i>Tsugla</i> <i>Wogma</i> बाङ्ख्याप्थयाप्रेया बा
5			Advanced Diploma	Advanced Diploma	
4			Diploma	Diploma	
3		Bhutan Higher Secondary Education Certificate	Certificate 3		Dringrim Gongma व्य्वैर-रेग्र'र्वेन-आ
2		Bhutan Certificate for Secondary Education	Certificate 2		Dringrim Barma এন্থ্রীন:ইশ্রায়ন্য আ
1	ALC		Certificate 1		

1.6. 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:

	Knowledg e	Skills	Values	Application
Level	Knowledg e that is:	Demonstrat e skills that involve:	Demonstrat e 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 Demonstratin g 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 comprehendi ng 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 and unfamiliar problems Communicati ng effectively and clearly, both oral and written, in both English and Dzongkha	Sound level of self- awareness 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	Stable tasks with some 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 straightforwa rd issues Using simple and direct exchange of information on familiar	Some level of self- awareness and beliefs, and appreciation of social norms; and significance of relationships Awareness of ethical norms, and openness	Structured and stable tasks General support and Supervision that require some discretion and judgement Collaboration with others to achieve goals

		and routine matters	to different activities	
		Developing basic proficiency in Dzongkha and English	Developing own knowledge and skills	
1	Foundation al, every day and general	Applying operational literacy, numeracy skills required to carry out simple tasks Applying simple solutions to solve simple and straightforwa rd everyday issues Communicati ng using everyday expressions and simple phrases in Dzongkha and English	Basic awareness of self, beliefs, and social norms; and understand the significance of relationships Basic awareness of fundamental ethical norms, basic civil rights, and responsibiliti es Willingness to understand tasks and motivated to implement them successfully	Highly structured tasks with close support and supervision Minimal Discretion and judgement 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 Organization (ILO).

The coding of the National competency standards forms the basis of the identification code for the 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 occupational code
- to identify the units
- to identify the qualification level

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 qualification level. Some standards are so complex that they need to stand alone.



TVET Quality Council Bhutan Qualifications and Professionals Certification Authority Thimphu, Bhutan