
	BQA NCQF QUALIFICATION TEMPLATE	Document No.	DNCQF.QIDD.GD02
		Issue No.	01
		Effective Date	04/02/2020

SECTION A: QUALIFICATION DETAILS													
QUALIFICATION DEVELOPER (S)		GIPS											
TITLE	Diploma in Motor Vehicle Body Repairs and Refinishing										NCQF LEVEL	6	
FIELD	Manufacturing, Engineering and Technology			SUB-FIELD			Engineering and Engineering Trades			CREDIT VALUE	360		
New Qualification							<input checked="" type="checkbox"/>	Review of Existing Qualification					
SUB-FRAMEWORK		General Education			<input type="checkbox"/>	TVET			<input checked="" type="checkbox"/>	Higher Education			
QUALIFICATION TYPE	Certificate	I	II	III	IV	V	Diploma	<input checked="" type="checkbox"/>	Bachelor				
	Bachelor Honours			Post Graduate Certificate			Post Graduate Diploma						
	Masters					Doctorate/ PhD							
RATIONALE AND PURPOSE OF THE QUALIFICATION													

RATIONALE

The first pillar of Vision 2036 (Sustainable economic development) envisions a high-income nation with an export-led economy supported by diversified, exclusive, and long-term growth fuelled by high productivity. Knowledge-based economy, intellectual resources, doing business and productivity, infrastructure growth, informal sector and micro and small businesses, mineral sector, agricultural sector, industrial sector, tourism,

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services, computer technology, financial and business services, transportation and logistics, creative industries, and sport are all covered under this pillar. In order for the Small Medium Enterprises sector and the country to stay successful, important, and respected around the world, the National Development Plan 11 recognises the critical significance and need for service skills in the Small Medium Enterprises sector. It states, for example, that vocational education, which builds human resources, would be maintained throughout NDP11, and that it is one of the most important contributors to Botswana's economic diversification efforts. The automobile body repair industry is constantly subjected to modern body repair strategies that are constantly evolving. This necessitates the development of learning programmes such that learners joining this field of study are familiar with this emerging innovation from the start of their careers, as stated in the institution's need evaluation survey (see Appendix B).

Presenting learners at this level of adapting often shapes the support structure in a car body mechanics shop, where adapting gradually progresses to more advanced repair procedures at higher levels of learning, thus exposing learners to more advanced and modern body repair techniques and hardware, assisting in the development of experts in the field in accordance with the national standards (HRDC: 2013). This is the most important qualification in an arrangement, and it structures the justification for students who choose a career in the area of auto body repair. This certification focuses on developing the skills and knowledge required to begin such a career. It also allows learners who have had more significant job experience to win credits via the RPL method.


PURPOSE:

The purpose of this qualification is to produce graduates with advanced skills, knowledge and competences to:


- Strip, reassemble and refit trim, body panels, and mechanical and auto-electrical components.
- Perform minor and major auto-body repairs.
- Demonstrate knowledge in key recognised theories and processes related to panel beating.
- Assess accident damaged vehicles.

ENTRY REQUIREMENTS (including access and inclusion)


- Certificate IV, NCQF level 4 (General Education or TVET).
- Provision for entry through recognition of learning will be done in accordance with institutional policies and guidelines which are aligned to BQA standards.

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SECTION B QUALIFICATION SPECIFICATION			
GRADUATE OUTCOMES)	PROFILE	(LEARNING	ASSESSMENT CRITERIA
1. Demonstrate knowledge in key recognised theories and processes related to panel beating.			<p>1.1 Demonstrate knowledge in vehicle construction , types of chassis, body classification, types of panels, floor pan, basic engine compartment parts and crumple zones.</p> <p>1.2 Show understanding of Structural repair techniques.</p> <p>1.3 Demonstrate understanding of mechanical systems that constitute the car and their principles of operation.</p> <p>1.4 Apply techniques to safely remove and replace car components using tools and equipment, and post-installation procedures.</p> <p>1.5 Demonstrate knowledge in fundamentals of engine technology.</p> <p>1.6 Apply techniques to safely remove and replace auto-electrical systems components using tools and equipment, and their post-installation procedures</p> <p>1.7 Apply safety aspects pertaining to auto-body repair.</p>
2. Assess accident damaged vehicles.			<p>2.1 Determine the extent of damage using appropriate techniques.</p> <p>2.2 Check the damage against the job card for any discrepancies.</p> <p>2.3 Analyze the report of the damage against the job card.</p>

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3. Demonstrate skill in Stripping, reassembling and refitting trim, body panels, and mechanical and auto-electrical components.	<p>3.1 Modify external and internal trim and market accessories, strip and reassemble them using workshop procedures according to safety requirements and Original Equipment Manufacturer's specifications.</p> <p>3.2 Remove door and bonded glass and refit them.</p> <p>3.3 Use workshop techniques to remove, refit and realign body panels.</p> <p>3.4 Use workshop techniques to remove and refit mechanical components (which must include components of cooling, suspension and air-conditioning systems).</p> <p>3.5 Implement post-installation procedures to ensure functionality of reassembled and refitted components.</p>
4. Apply advanced skill to perform major auto-body repairs.	<p>4.1 Prepare the vehicle on which repairs are to be performed.</p> <p>4.2 Repair a dent without filling and shrinking using techniques like shaping, planishing and finishing-off.</p> <p>4.3 Remove a bolt on body panel, replace and align it.</p> <p>4.4 Use appropriate repair processes to repair non-metal components using fiber glass.</p> <p>4.5 Adhere to safety requirements during all repair processes.</p> <p>4.6 Resolve problem-solving techniques during repairs.</p> <p>4.7 Check quality of work done.</p>
5. Demonstrate the ability to perform minor auto-body repairs.	<p>5.1 Acquire welding, drilling and cutting techniques and procedures to perform repairs are used.</p> <p>5.2 Perform Jig setting and vehicle clamping.</p> <p>5.3 Perform Structural pulling and aligning.</p> <p>5.4 Perform Structural repairs, including the replacing of a box section (chassis leg, sill panel etc.) and an external</p>

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	<p>welded section (A, B post section, rear fender section, dome skin etc.).</p> <p>5.5 Repair deformed ferrous metal panels.</p> <p>5.6 Perform body alignment verification using a 3-dimensional electronic measuring tool.</p> <p>5.7 Adhere to Safety requirements during the repair process.</p> <p>5.8 Check the quality of work done.</p>
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SECTION C	QUALIFICATION STRUCTURE					
	TITLE	Credits Per Relevant NCQF Level				Total (Per Subject/ Course/ Module/ Units)
		Level [4]	Level [5]	Level [6]	Level [7]	
FUNDAMENTAL COMPONENT Subjects/ Courses/ Modules/Units	Introduction to Motor Vehicle Body Repair		10			10
	Introduction to Business Communication		10			10
	Engineering Science		10			10
	Engineering Mathematics 1		10			10
	Introduction to Information Technology		10			10
	Automotive Welding		10			10
	Engineering Drawing		10			10
	Automobile Electrics and Electronics Technology		10			10
	Motor Vehicle Workshop		10			10


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	Practice					
	Workshop Technology		10			10
CORE COMPONENT Subjects/Courses/ Modules/Units	Motor Vehicle Body Repair Technology		10			10
	Practical Risk Assessment and Workshop Safety			10		10
	Automotive Refinishing Technology			10		10
	Engineering Mathematics 2			10		10
	Automotive Collision Repair and Estimation			10		10
	Attachment			75		75
	Applied Mechanics			15		15
	Computer Applications			10		10
	Pneumatics and Hydraulics			15		15
	Entrepreneurship			10		10
	Practical Project			25		25
	Motor Vehicle Body Panels			15		15
	Strength of Materials			15		15

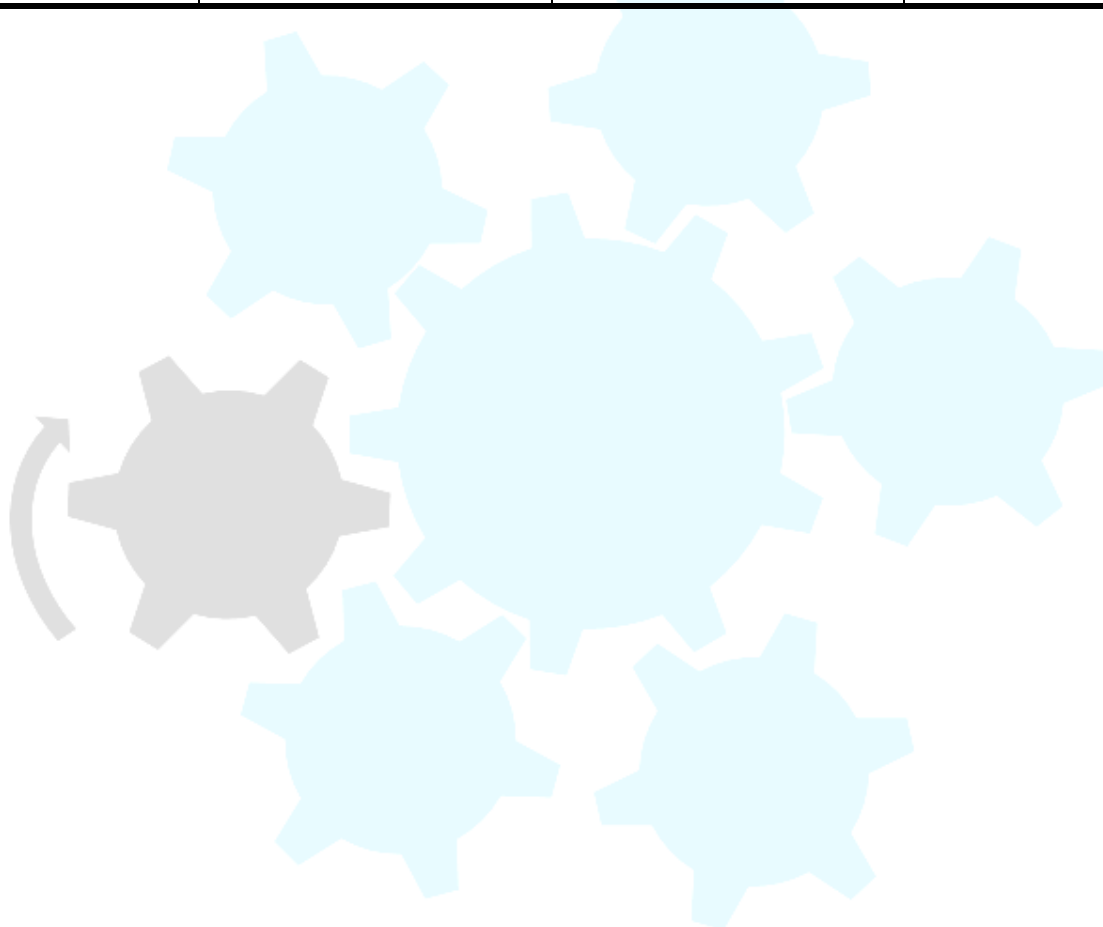
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ELECTIVE/ OPTIONAL COMPONENT Subjects/Courses/ Modules/Units (choose 2)	Vehicle Dynamics			15		15
	Engine Design			15		15
	Workshop Management			15		15
TOTAL			100	260		360

SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL			
TOTAL CREDITS PER NCQF LEVEL			
NCQF Level	Credit Value		
5	100		
6	260		
TOTAL CREDITS	360		
Rules of Combination:			
(Please Indicate combinations for the different constituent components of the qualification)			
The qualification consists of 360 credits distributed as follows.			
Level and Credits	Fundamental	Core	Elective
Level 5...credits....100	100 Credits		
Level 6...credits....260		230 Credits	30 credits

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Total Credits	100 Credits	230 Credits	30 credits	
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ASSESSMENT ARRANGEMENTS

Formative Assessment

Formative assessment will contribute 60% towards the final assessment mark.

Summative assessment:

Summative assessment will contribute 40% to the final assessment mark.

MODERATION ARRANGEMENTS

Both internal and external moderation will be done in-line with the Moderation policy of the Institution. In addition, all Moderators and Assessors must be registered and accredited with Botswana Qualification Authority (BQA).

RECOGNITION OF PRIOR LEARNING

Recognition of prior learning (RPL) will be considered for the award of this qualification

CREDIT ACCUMULATION AND TRANSFER

Credit Accumulation and Transfer (CAT) will be considered for the award of this qualification.

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)


Academic Pathways

Learners who have graduated with a Diploma in Motor Vehicle Body Repairs and Refinishing can proceed to do the following: -

LEARNING PATHWAYS

Vertical Articulation

- Bachelor's degree in Motor Vehicle Body Repairs and Refinishing,
- Bachelor's degree in Automotive Repair

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- Bachelor's degree in Automotive Motor Mechanic

Horizontal Articulation

- Diploma in Automotive Repair and Maintenance
- Diploma in Automotive Diagnostics and Repair

EMPLOYMENT/ CAREER PATHWAYS

The Motor Vehicle Body Repairs and Refinishing cuts across different fields. The following are some positions one can attain after pursuing the degree:


- Commercial Vehicle Spray Painter
- Metal Repairer- Motor Vehicle Manufacturing
- Metal Finisher-Motor Vehicle Manufacturing
- Motor Vehicle Body Repairer- Metal and Paint
- Motor Vehicle Painter
- Panel Beater
- Auto body Technician

QUALIFICATION AWARD AND CERTIFICATION

A learner will be awarded Diploma in Motor Vehicle Repairs and Refinishing after attaining 360 credits. The learner will be issued a certificate and an official transcript. This qualification does not have compensatory awards.

REGIONAL AND INTERNATIONAL COMPARABILITY

The proposed qualification of Diploma in Motor Vehicle Body Repair and Refinishing is not the same as any local and international qualifications, there are no other diploma being offered for Motor Vehicle Body Repair and Refinishing elsewhere. It is the first of its kind. However there are diploma qualifications which are similar or share certain modules with the proposed qualification which are discussed below. The proposed

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qualification is compared with some diploma qualifications.

India: George Telegraph Institute of Automobile Engineering

Similarities

The proposed qualification compared with Advanced Diploma in Automobile Technology offered at GTIAE are off the same NQF Level 6, they both have similar career pathways and academic progression pathways.

Differences

The duration for the proposed qualification is three (3) years while the advanced diploma is two (2) years, the total number of modules for the proposed qualification and the advanced diploma looking at the core, fundamentals and elective modules is different, the proposed qualification is recognised as diploma and while one offered at India is recognised as advanced diploma. The proposed qualification assessment pass mark is 40% while for the advanced diploma the assessment pass mark is 60%. The total notional hours for the proposed qualification is 3600 hours while for the advanced diploma is 3200 hours.

South Africa: SGB Vehicle Maintenance


Similarities

The proposed qualification and the SGB Vehicle Maintenance have similar fundamental modules both on theory side and practical side e.g. they both aim to produce a graduate who is able to Manage work in an automotive context and diagnose and repair vehicles in a specialised area.

Difference

The major difference is that SGB Vehicle Maintenance qualification allows learners to specialise in different areas like Passenger and Light Delivery Vehicles, Earthmoving Equipment and Commercial Vehicles while the proposed qualification only specialises in one area; motor vehicle body repair and refinishing.

Most of the qualifications that are examined above are different from the proposed qualification. The proposed qualification is specialization qualification that focus only on motor vehicle body repair and refinishing. Though its assessment criteria and core modules are significantly different from those used for benchmarking it follows engineering principles.

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REVIEW PERIOD

This Qualification will be reviewed after every 5 years.

