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		Issue No.	01
		Effective Date	27.01.2021

SECTION A: QUALIFICATION DETAILS													
QUALIFICATION DEVELOPER (S)		Diamond Academy of Botswana											
TITLE	Diploma in Diamond Processing										NCQF LEVEL	6	
FIELD	Field 10: Manufacturing, Engineering and Technology			SUB-FIELD		Manufacturing and Processing				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 or				
	Bachelor Honours			Post Graduate Certificate				Post Graduate Diploma					
	Masters					Doctorate/ PhD							
RATIONALE AND PURPOSE OF THE QUALIFICATION													
RATIONALE: Diamond processing is not a mechanical process; it necessitates an understanding of the nature and structure of the diamond crystal, how processing exposes the gemstone's properties, and how impurities can influence the gemstone's ultimate value. There is a critical need in the mining industry to convert experienced personnel into qualified practitioners and thus raise the credibility of the industry. Botswana, being a diamond mining country needs to also to raise its status as a diamond processing country and thus add value to the gemstone													

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while creating employment opportunities. This qualification would provide experienced, but previously unrecognised people in the industry an opportunity to establish and have recognised their skills for further development.

This diploma will provide eligible learners with the experience, understanding, and skills needed for sorting, cutting, polishing and brilliantteering gemstones according to internationally recognized standards. Botswana being a minerals-based country, which mostly sales diamonds, there is a need for market players as well as government officials to understand how diamonds are sorted, cut and polished. This will enable the mining


The HRDC Priority Skills and Employment Trends list of 2019 shows that Jewellery Designers, Jewellery Manufactures and Industrial Designers are among some of the top occupations in demand for Botswana (HRDC; 2019, page 24) (<https://hrdc.org.bw/sites/default/files/Top%20Occupations%20Jan%202017.pdf>). The trend also shows that the manufacturing sector from the year 2019 to 2028 will witness an increased shortage of labour (HRDC; 2019, page 2).

National Development Plan (NDP) 11 Volume 1 April 2017 – March 2023 (page 59), as one of its' strategies for economic growth pointed to "Growing and sustaining diamond cutting and polishing through the increase of rough diamond supply and the development of Botswana Diamond Exchange in order to provide a catalyst for secondary rough trading, polished trading, space to support diamond business incubation, set up SMMEs and other diamond support services".

Furthermore, a market needs assessment conducted among potential students and employers revealed that there is a clear need for a qualification in diamond processing in Botswana to upskill personal in the mining sector and to close skills needs gap.

PURPOSE:

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

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- Process rough diamond gemstones into cut and polished diamond gemstones for sale into local and international markets.
- Use diamond processes equipment and materials to cut, polish and sort diamond gemstones in a diamond workshop.
- Value and sort diamond gemstones.
- Comprehend and comply with laws governing handling and security of diamonds.
- Use a variety of the technological tools for diamond bruting diamond, sawing, and balancing gemstones.

ENTRY REQUIREMENTS (including access and inclusion)


Direct entry into the qualification requires as a minimum of:

- Certificate V, NCQF Level 5 (TVET/ GE) or equivalent.
- Recognition of Prior Learning (RPL) - for any candidate wishing to enhance, develop or formalize their skills and knowledge with a qualification in this area. Candidates should have a minimum of one (1) year experience in the mining or jewellery industry.


SECTION B QUALIFICATION SPECIFICATION	
GRADUATE PROFILE (LEARNING OUTCOMES)	ASSESSMENT CRITERIA
LO1: Demonstrate knowledge of the diamond value chain post mining and be able to identify diamond gemstone physical features.	1.1 Demonstrate knowledge of descriptive features of a diamond gemstone. 1.2 Describe the five main features of a diamond gemstone: colour, carats, size, light reflection, etc. 1.3 Describe diamonds in terms of features, value and uses.

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<p>LO2: Describe the structure and properties of diamond gemstones and evaluate against recognised price lists, as well as identifying equipment, tools and technology used in the diamond industry.</p>	<p>2.1 Describe diamond cutting industry: history, practices, equipment, tools and technology.</p> <p>2.2 Use computer for basic word processing, design and presentations.</p> <p>2.3 Explain basic theory and gaining practical experience of detection and identification of synthetic diamonds and diamond treatments.</p> <p>2.4 Demonstrate ability to use a diamond wheel (prepare, charge, maintain surfaces).</p> <p>2.5 Describe jewellery in terms of creative cutting and polishing of diamonds.</p> <p>2.6 Use basic diamond marking and cutting tools and equipment.</p>
<p>LO3: Use diamond processes equipment and materials to cut, polish and sort diamond gemstones in a diamond workshop.</p>	<p>3.1 Use the 10X cutters loupe, crown and pavilion gauges, girdle marker, mounting and setting of diamonds in various pots.</p> <p>3.2 Demonstrate knowledge of the 4C rating method, Cut, Colour, Clarity and Carat. Look for and identify the crystal symmetry, axis, form and habit of diamond crystals.</p> <p>3.3 Work with diamond specimens using professional tools, such as tweezers, hand lens and cleaning cloths</p> <p>3.4 Perform accurate clarity grading of round brilliant cut diamonds using accepted international grading scales.</p>
<p>LO4: Demonstrate knowledge and understanding of the principles of marketing and management of a gemstone business.</p>	<p>4.1 Identify specific forms of competitive advantage in diamond products.</p> <p>4.2 Define gemstone target market</p> <p>4.3 Identify different forms of business and leadership techniques.</p>


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	4.4 Discuss the decision-making process and motivational approaches in business.
LO5: Understand and comply with laws regarding handling and security of diamonds.	<p>5.1 Identify the general requirements for safeguarding diamonds in the workplace.</p> <p>5.2 Discuss the procedures for receiving and issuing of diamonds at the workplace.</p> <p>5.3 Discuss the laws, rules, customs, and regulation in the diamond industry.</p>
LO6: Develop hands-on experience in marking, bruting, sorting, and polishing gemstones.	<p>6.1 Develop essential skills, including polishing, filing, texturing, sawing, fabrication and forging techniques, stone setting and general torch skills.</p> <p>6.2 Cut the pavilion mains and its in-between facets on angle and match them to the top mains.</p> <p>6.3 Calculate the finished weight of a cut diamond to within a few points from the rough before attempting to cut it.</p> <p>6.4 Apply both textured and polished finishes to jewellery surfaces on a variety of metals.</p> <p>6.5 Perform the most common jewellery repairs, including sizing rings, replacing prongs, repairing broken chains and installing new settings.</p>
LO7: Demonstrate knowledge of advanced knowledge of diamond Bruting, Sawing, Balancing and other value addition processes.	<p>7.1 Demonstrate knowledge of diamond bruting.</p> <p>7.2 Use variety of the technological tools for diamond bruting diamond.</p> <p>7.3 Monitor the fabrication process of diamond gemstones.</p> <p>7.4 Demonstrate understanding of diamond Sawing.</p> <p>7.5 Demonstrate how to balance gemstones.</p> <p>7.6 Demonstrate how under testing is done.</p>


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LO8: Develop business and entrepreneurship skills and knowledge to enable learners to be innovative and creative.	8.1 Identify various sources of business and entrepreneurship ideas. 8.2 Discuss essential components of a business plan and compile one. 8.3 Demonstrate knowledge of strategic planning. 8.4 Demonstrate understanding of legal aspects of business.
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SECTION C	QUALIFICATION STRUCTURE				
COMPONENT	TITLE	Credits Per Relevant NCQF Level			Total Credits
		Level [4]	Level [5]	Level [6]	
FUNDAMENTAL COMPONENT <i>Subjects/ Courses/ Modules/Units</i>	Introduction to Diamond Sector Industry			15	15
	Introduction to Sorting		15		15
	Fundamentals of Sawing		10		10
	Management Practices		15		15
	Introduction to Polishing		10		10
	Fundamentals of Bruting		15		15

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	Gemstones Marking 1			15	15
	Fundamentals of Gemology			15	15
	Introduction to Information Technology		10		10
	Business and Entrepreneurship			15	15
CORE COMPONENT <i>Subjects/Courses/ Modules/Units</i>	Sorting			10	10
	Sawing			15	15
	Polishing			10	10
	Bruting			15	15
	Gemology			15	15
	Technology and Automation Operation			15	15
	Diamond gemstone care and security			15	15
	Gemstones Marking 2			10	10
	Practical			60	60
	Practical Project			30	30
	Skive room workshop			15	15

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ELECTIVE/ OPTIONAL COMPONENT <i>Subjects/Courses/ Modules/Units</i>	HPHT and CVD Diamonds			15	15
	Diamond gemstones naifs balancing			15	15
	Groove diamond gemstones			15	15
	Triple X Polishing			15	15
	Polished Diamond Repairs			15	15
	Jewellery Design			15	15

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SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL	
TOTAL CREDITS PER NCQF LEVEL	
NCQF Level	Credit Value
5	75
6	285
TOTAL CREDITS	360
Rules of Combination: (Please Indicate combinations for the different constituent components of the qualification)	
<p>The structure of this Diploma in Diamond Processing qualification consists of three main components, the fundamental, the core and the elective. The qualification will have a minimum of 360 credits depending on elective choice;</p> <p>Fundamentals: All 135 credits are compulsory and must be achieved.</p> <p>Core: All 195 credits are compulsory.</p> <p>Electives: The candidate can select the stream they wish to specialize in. A minimum of two (2) modules (30 credits) from the electives must be selected.</p> <p>Duration</p> <p>The qualification will be offered over a three-year (3) period of two (2) semesters each. The mode of delivery is fulltime, and blended learning. Students doing the part-time or blended learning mode have a minimum of three years and a maximum of five years to complete the qualification.</p>	

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ASSESSMENT ARRANGEMENTS

Candidates will undergo formative and summative assessments, which should be designed by assessors who are registered with BQA. Formative assessment or continuous assessment will include tests, quizzes, assignments, and projects (including simulated and real work settings). A sizeable amount of formative assessment will measure the acquisition of skills and competencies by using practical work as the context for assessment. Specific practical assessment rubrics shall be used to continuously assess students while carrying out designed tasks in the workshops/laboratories.


Candidates will also undergo summative assessments which will either be final examination final project, written or oral reports from industrial attachment. Summative assessments shall entail mostly high order items to measure understanding and ability to analyse, synthesise, create and evaluate.

The assessment break down is presented below:

Assessment type	Weight (%)	Comments
Formative Assessment	10	A minimum of two (2) assignments will be given to the students during each module.
Summative Assessment	90	A pass on the final practical assessment is compulsory to pass each module.

MODERATION ARRANGEMENTS

There will be internal and external moderation undertaken by moderators registered by BQA. All processes and procedures will be in line with NCQF requirements. This will be conducted in reference to the institution's moderation policy and procedures.

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Moderation of assessment takes place at the key stages of the assessment process. Moderating of at least 10% of assessments shall be done.

Qualification(s) required for Moderator.

Assessors and moderators must have relevant qualifications higher than the level of qualification for which they are engaged.

RECOGNITION OF PRIOR LEARNING

Candidates may submit evidence of prior learning when apply for this qualification. RPL shall be applicable in accumulating part or whole credits towards graduation.


CREDIT ACCUMULATION AND TRANSFER

There shall be access and award of credits of the qualification using Institutional Credit Accumulation and Transfer (CAT) Policy in line with the National CAT Policy.

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

Horizontal Articulation (related qualifications of similar level that graduates may consider) graduates of this qualification may consider pursuing related qualifications (at this level) such as;

- Diploma in Diamond Gemmology
- Diploma in Diamond Polishing
- Diploma in Diamond Technology
- Diploma in Diamond Grading & Identification
- Diploma in Diamond Trade Management

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Vertical Articulation (qualifications to which the holder may progress to)

Graduates may progress to higher level qualifications such as:

- Bachelor in Diamond Processing Technology
- Bachelor of Science in Gemmology and Jewellery
- Bachelor in Diamond Design and Evaluation
- Bachelor of Fine Arts in Jewellery Design

Employment


Graduates will have requisite competencies and attribute to work as:

- Diamond Sorter/Grader
- Manufacturing jeweller
- Diamond Buyer
- Jewellery buyer
- Jewellery valuer
- Auction House Jewellery Specialist
- Jewellery Business Owner
- Diamond consultant for private companies.
- Sales consultant (jewellery and diamond stores).
- Managers for retail (jewellery and diamond stores)

QUALIFICATION AWARD AND CERTIFICATION

In order to graduate, the candidate should complete fundamental, core and electives and attained 360credits
A certificate clearly indicating that this is a Diploma in Diamond Processing and transcript will be issued to candidates upon successfully completing this qualification.

REGIONAL AND INTERNATIONAL COMPARABILITY

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The Diamond Processing qualification was compared with other qualifications in terms of the title, main exit outcomes, modules, duration, credits, and assessments. The general indication is that this qualification developed in Botswana is unique as the diamond industry is a relatively small industry world-wide with a defined channel of trade which provides a close community of people knowledgeable about the industry. Most institutions offering diamond training offer short courses or part- qualifications.

SIMILARITIES

The Gemmological Institute of Great Britain has a Gem-A Diploma in Gem Diamond which is done over 9 months, which qualifies one to undertake a Gemmology Foundation (9months) and a Gemmology Diploma (9months), before a student can apply for a BSc in Gemmology and Jewellery Studies. Thus, these are part-qualifications with a cumulative period of 3 years which qualifies a student to a Bachelor in Gemmology and Jewellery Studies. This study period is like the period for this diploma. The Gemmological Institute of Great Britain diploma has the same exit outcome with this diploma of equipping students with comprehensive knowledge of understanding of diamonds and how the diamond market operates, allowing students to explore new career opportunities and enhancing existing career in the fields of diamond grading, diamond research and technology, diamond retail and diamond jewellery making. The Diamond Processing certificate by the Harry Oppenheimer Diamond Training School has the same name as this qualification and the same assessment criterion of giving more weight to summative practical assessments (90%) and formative assessments (10%). Furthermore, all the institutions compared have 80% similar employment pathways.

DIFFERENCES

There are a number of diamond societies and institutes, but none appear to have accreditation as national qualifications in their countries. What is immediately visible from the comparison is the difference in the titles of the qualifications from the various institutions. This is because most institutions offer short (non-credit bearing) skills development courses over shorter durations of 3 to 5 months or even days. The Gemmological Institute of Great Britain offers short courses with durations of 4 to 9 months depending on the mode of study. The Harry Oppenheimer Diamond Training School certificate in Diamond Processing have duration of 1 year 6 months compared with the 3 years for this qualification. The Harry Oppenheimer Diamond Training School offers its certificate in Dimond Processing over several courses with two-week training interventions, and it has a few

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general courses that are different from this qualification. Furthermore, the Harry Oppenheimer Certificate is at a NQF Level 04 with 161 credits, while this diploma is at NCQF level 6 and has 360 credits. This being attributable to the fact that is a diploma qualification while the Harry Oppenheimer qualification is a certificate level.

What sets this qualification apart from the qualifications examined is that there is provision for continuous structured classroom learning and intergraded project as well as development of attributes such as specialized knowledge and skills for skilled/paraprofessional work. Furthermore, this qualification affords student the opportunity to attain a formal professional qualification in this industry with relatively no formal qualification in Botswana and the region at large.

In conclusion, it appears that Botswana is in the forefront establishing a formal diploma qualification in diamond processing, outside of short courses that are offered by some institutions and thus there are no other comparable national qualifications in existence.

Articulation

Holders of this qualification can specialise (horizontal articulation) and undertake Diploma in Diamond Technology; Diploma in Diamond Grading & Identification; Diploma in Diamond Trade Management, all at NQF Level 6.

Holders of this qualification can progress to Bachelor in Diamond Processing Technology; Bachelor of Science in Gemmology and Jewellery; Bachelor in Diamond Design and Evaluation; Bachelor of Fine Arts in Jewellery Design: Management, NQF Level 7.

Upon completion of this qualification, graduates can be employed as Diamond Sorter/Grader, Manufacturing jeweller, Diamond Buyer, Jewellery buyer, Jewellery valuer, Auction House Jewellery Specialist, Diamond consultant for private companies, Sales consultant (jewellery and diamond stores) and Managers for retail (jewellery and diamond stores). Thus, compared with the qualification examined, this qualification offers a wider range of job prospects and progression pathway.

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REVIEW PERIOD

The qualification will be reviewed after every five (5) years. When reviewing the qualification, wide consultation with all key stakeholders like students, potential employers and academicians will be done through review instruments that include questionnaires, focus group interviews, individual interviews, and other data collection tools.

