	BQA NCQF QUALIFICATION TEMPLATE	Document No.	DNCQF.P02.GD01
		Issue No.	01
		Effective Date	27.01.2021

SECTION A:	QUALIFICATION DETAILS		

QUALIFICATION DEVELOPER (S)	University of Botswana		

TITLE	Doctor of Philosophy in Statistics		**NCQF LEVEL**	10

FIELD	Natural, Mathematical and Life Sciences	**SUB-FIELD**	Statistics	**CREDIT VALUE**	380

New Qualification	✓	*Review of Existing Qualification*	

SUB-FRAMEWORK	*General Education*		*TVET*		*Higher Education*	✓

QUALIFICATION TYPE	*Certificate*	*I*	*II*	*III*	*IV*	*V*	*Diploma*	*Bachelor*
	Bachelor Honours		*Post Graduate Certificate*				*Post Graduate Diploma*	
	Masters					*Doctorate/ PhD*		✓

RATIONALE AND PURPOSE OF THE QUALIFICATION			

RATIONALE:

Botswana Vision 2036 recognizes education and skills development as the foundation for human resource development. In line with the nation's Vision 2036 Pillar 1 and 2, the tertiary education providers are mandated to provide quality training opportunities for the increasing number of school leavers. Secondly the VISION 2036 document calls for Sustainable Economic Development and Human and Social Development (Human Resource Development Council, 2015). Further, the Botswana Education and Training Sector Strategic Plan (ETSSP 2015-2022) also advocates for efforts to achieve a knowledge-based economy. A Doctor of Philosophy in Statistics qualification is thus in line with this mandate in contribution to the realization of Vision 2036's National Development Plan (NDP 11). This qualification is also supported by the Tertiary Education Policy, as approved by the National Assembly on the (2008:10). The service sector of statistics and data sciences have been identified as one of the most important drivers in the transition from highly resource-based economy to knowledge-based service economy in Botswana. Therefore, this qualification is founded on the belief that graduates should be equipped with a highly specialized BQA NCQF QUALIFICATION TEMPLATE Document No. DNCQF.QIDD.GD02 Issue No. 01 Effective Date 04/02/2020

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Page 2 of 14 Building a seamless Education and Training System financial knowledge and quantitative skills that meet national and international standards. The qualification puts emphasis on developing a range of practical skills, data analysis, computing and to equip students with knowledge, applied competencies to undertake independent statistical research that contributes new knowledge, understanding in statistics and related areas and highly specialized knowledge required by public and private sectors. The qualification is strengthened by work-integrated learning that gives students opportunities to apply their highly specialized knowledge, skills and competencies in different workplace environment. The Human Resource Development Council (HRDC) research and publishes reports on occupations that have been identified by the employers as being in high demand at a national level. In December 2016, the HRDC published a report that indicates Botswana is currently experiencing a huge shortage of human capital in Finance and Investment industry. The HRDC (December 2016: p.32) further indicates there is shortage of Investment appraisal and Financial analysis experts in the Manufacturing Sector's top 20 occupations which is in high demand. This qualification is thus designed to equip graduates with required skills competences to prepare them to fill the shortage gaps identified in the HRD 2016 report. This is in line with the national priorities as outlined in the Vision 2036 NDP 11.

PURPOSE:

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

- Demonstrate a high proficiency in Statistics in both research, computing and teaching at institutions of higher learning.
- Provide statistical leadership in industry and corporate entities in order to advance their respective research agenda.
- Interact productively in areas related to statistics with people from diverse backgrounds as both leaders/mentors and team members.
- Conduct research, and validate and verify the products of original research independently.
- Present proposals, findings, problem solutions and reports both orally and in writing.

ENTRY REQUIREMENTS (including access and inclusion)

The minimum requirement for admission to the Doctor of Philosophy in Statistics shall be:

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A Master's degree at NCQF Level 9.

SECTION B	QUALIFICATION SPECIFICATION
GRADUATE PROFILE (LEARNING OUTCOMES)	**ASSESSMENT CRITERIA**
1. Demonstrate a high proficiency in Statistics in both research, computing and teaching at institutions of higher learning.	1.1 Carry out research in Statistics. 1.2 Use Statistical packages to capture and analyze data. 1.3 Prepare and teach in most areas in Statistics.
2. Provide statistical leadership in industry and corporate entities in order to advance their respective research agenda.	2.1 Advise on the best methods of data collection in industry. 2.2 Collate, analyze and report writing of corporate data.
3. Provide leadership in the area of Statistics and mentoring of junior staff in order to ensure quality in research.	3.1 Supervise junior staff in Statistical research. 3.2 Publish articles jointly in Statistical Journals.
4. Interact productively in areas related to statistics with people from diverse backgrounds as both leaders/mentors and team members.	4.1 Conduct multi-disciplinary research with members from different specializations. 4.2 Impart some basic statistical knowledge to non-statisticians.
5. Conduct original and thorough research activities independently.	5.1 Produce at least one article in an international conference proceeding/ or refereed journal. 5.2. Conduct a consultancy project.
6. Validate and verify the products of original research independently.	6.1 Undertake duties as external examiner. 6.2 Supervise graduate undertaking a research thesis.
7. Present proposals, findings, problem solutions and reports both orally and in writing.	7.1 Mentor junior staff pursuing graduate studies. 7.2 Undertake statistical analysis projects from internal and external organizations.

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SECTION C	QUALIFICATION STRUCTURE				
COMPONENT	TITLE	Credits Per Relevant NCQF Level			Total Credits
		Level [8]	Level [9]	Level [10]	
FUNDAMENTAL COMPONENT *Subjects/ Courses/ Modules/Units*	N/A				N/A
CORE COMPONENT *Subjects/Courses/ Modules/Units*	Supervised Research and Thesis in Statistics			380	380
ELECTIVE/ OPTIONAL COMPONENT *Subjects/Courses/ Modules/Units*	N/A				N/A

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SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL

TOTAL CREDITS PER NCQF LEVEL

NCQF Level	Credit Value
10	380
TOTAL CREDITS	380

Rules of Combination:

(Please Indicate combinations for the different constituent components of the qualification)

The Doctor of Philosophy in Statistics is a supervised research in different applied and theoretical areas of Statistical Science. This qualification has 380 credits from the core component. There are no fundamental or elective components.

ASSESSMENT ARRANGEMENTS

The Doctor of Philosophy in Statistics is essentially by research. The thesis should provide some original contribution towards statistical theories or applications, and the qualification shall be assessed entirely through a thesis.

Assessment will consist of both formative and summative assessments and should be aligned with learning outcomes and sub-outcomes. Assessment will be carried out by registered and accredited assessors.

1. Formative assessment

Formative assessment or continuous assessment component of the thesis may include one or more of the following: seminar presentations, proposal defence (MPhil), and research publications. Continuous assessment shall contribute 75% to the final grade of the thesis.

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2. Summative assessment

Summative assessments are conducted in the form of viva oral examination (thesis defence). The viva oral examination is assessed by both external and internal examiners. Summative assessment shall contribute 25% to the final grade of the thesis.

MODERATION ARRANGEMENTS

In accordance with institutional policies and regulations, internal and external moderations are conducted by registered and accredited moderators.

1. Internal moderation requirements

Internal moderation is carried out by BQA accredited staff members in the department whose area of expertise is in line with the thesis topic to be moderated.

2. External moderation requirements

External moderation is carried out by BQA accredited moderators from other institutions recruited for this purpose.

RECOGNITION OF PRIOR LEARNING

Candidates may submit evidence of prior learning and current competence and/or undergo appropriate forms of RPL assessment for the award of credits towards the qualification in accordance with applicable institutional RPL policies and relevant national-level policy and legislative framework. Implementation of RPL shall also be consistent with requirements, if any, prescribed for the field or sub-field of study by relevant national, regional, or international professional bodies.

CREDIT ACCUMULATION AND TRANSFER

Credit accumulation and transfer will be done according to the institution's policy on credit accumulation and transfer in line with national RPL and CAT policies.

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PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

The Doctor of Philosophy in Statistics provides career-path articulation options leading to a variety of horizontal articulation and vertical articulation as follows:

Horizontal Articulation (related qualifications of similar level that graduates may consider)

The PhD degree is similar to:

- Doctor of Philosophy in Mathematics
- Doctor of Philosophy in Biostatistics
- Doctor of Philosophy in Economics
- Doctor of Philosophy in Computer Science

Vertical Articulation

Not applicable.

Employment Pathway

Graduates with Doctor of Philosophy in Statistics will have requisite competencies and attributes to work at higher levels as:

- Statistician
- Policy Advisors
- Statististics Lecturers
- Data manager
- Project manager
- Methodology developer
- Consultant

QUALIFICATION AWARD AND CERTIFICATION

Qualification award

The candidate is required to achieve a total of 380 credits for the Doctorate of Philosophy in Statistics.

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Upon successful completion of the Qualification requirements, the candidate shall be awarded a Doctorate of Philosophy in Statistics.

Certification

The candidate shall be given a Doctorate of Philosophy in Statistics degree certificate upon successful completion of qualification.

REGIONAL AND INTERNATIONAL COMPARABILITY

A comparison was made for the proposed qualification both regionally and internationally. At regional level, we made a comparison with the PhD in Statistics offered by University of Pretoria, South Africa and PhD in Statistics offered by the University of South Africa, South Africa. Internationally, a comparison was made with the PhD in Statistics qualification offered by University of Wollongong, Australia.

Generally, the proposed qualification is similar to the regional and international qualifications studied for comparison in terms of the emphasis of the qualifications. While regional qualifications are similar in terms of duration and areas of research, international qualifications provide a variety of areas of research. However, the main objectives and learning outcomes are similar for all qualifications.

The structure of the proposed qualification and regional and international qualifications is largely similar as they offer the degree purely by research. The main exit outcomes (high quality research) and employment pathways (positions in the academia, employment in government institutions, private sector) are mainly similar.

There are no major differences between the proposed Doctor of Philosophy in Statistics qualification and comparable qualifications internationally and regionally except on total credits.

REVIEW PERIOD

The Doctor of Philosophy in Statistics will be reviewed every 5 years.

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