SECTION A:	***QUALIFICATION DETAILS***																	
QUALIFICATION DEVELOPER (S)	**BOTHO UNIVERSITY**																	
TITLE	**Bachelor of Science (Honors) in Mobile Computing**															***NCQF LEVEL***	***8***	
FIELD	Information and Communication Technology		***SUB-FIELD***		Mobile Computing											***CREDIT VALUE***	***120***	
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:

Human Resource Development Council (HRDC) of Botswana has published the document which provides a list of occupations that have been identified by the employers as being in high demand at a national level. Priority skills in each occupation have been identified and these includes both the core skills and soft skills (HRDC, 2019). 'Information & Communication Technology' sector has identified as one of the top occupations in demand for Botswana (HRDC, 2019). BSc (Hons.) In Mobile Computing qualification has been developed to fulfill this demand gap with job ready graduates. To ensure responsiveness of the qualification to the economic needs of Botswana, the design of the qualification not only included technical side of mobile computing modules, but also soft skills in the areas of research, advanced technologies and emerging trends. These

modules combined prepare graduates of this qualification for the world of work, changes in the world around them, and life in general.

The significance of this qualification was echoed by the respondents during stakeholder consultation for needs assessment from the industry. The respondents further highlighted the relevance of this qualification in the industry and the module coverage was reportedly sufficiently satisfactory in equipping learners with contemporary issues in Healthcare Management.

In a nutshell, the development of Bachelor of Science (Honours.) in Mobile Computing qualification has been influenced by reports and policy documents such as; Human Resource Development Council (HRDC), Statistics Botswana's Information & Communications Technology Statistics Report 2015, Maitlamo, Future of Jobs Report 2018, and Mobile Computing Market Analysis.

PURPOSE:

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

- Design and develop mobile applications for IOS and android platforms, integrating artificial intelligence and machine learning technologies.
- Accomplish innovative mobile computing solutions within a team and/or individual setup, through the application of advanced mobile sensor network concepts and, simulation technologies.
- Apply research methodologies to real-time mobile-based scenarios.

ENTRY REQUIREMENTS (including access and inclusion)

- NCQF level 7 in Mobile Computing or equivalent qualifications.
- Applications that do not meet the above criteria but possess relevant industry experience will be considered through recognition of prior learning (RPL).

SECTION B	***QUALIFICATION SPECIFICATION***
GRADUATE PROFILE (LEARNING OUTCOMES)	***ASSESSMENT CRITERIA***

At the end of this qualification the learner will be able to:	
1. Design and develop mobile applications for IOS and android platforms, integrating artificial intelligence and machine learning technologies.	1.1 Illustrate the concepts of React Native Framework. 1.2 Develop mobile application in both IOS and Android. 1.3 Demonstrate working with cross platform mobile App using Flutter. 1.4 Apply the concepts of Artificial Intelligence and Machine Learning. 1.5 Apply the Machine learning algorithms. *1.6* Demonstrate data pre-processing and data creation of data set.
2. Accomplish innovative mobile computing solutions within a team and/or individual setup, through the application of advanced mobile sensor network concepts and, simulation technologies.	2.1 Manipulate the mobile networks using simulation techniques. 2.2 Apply the concepts of wireless sensor network. *2.3* Design and deploy mobile sensor applications
3. Apply research methodologies to the critically analysed real-time mobile-based scenarios.	3.1 Demonstrate the in-depth knowledge of new or emerging mobile technologies. 3.2 Conduct a research in an academically appropriate manner and report the process and findings.

SECTION C	***QUALIFICATION STRUCTURE***				
COMPONENT	***TITLE***	***Credits Per Relevant NCQF Level***			***Total (Per** Subject/ Course/ Module/ Units)*
		Level [6]	***Level [7]***	***Level [8]***	

FUNDAMENTAL COMPONENT *Subjects/ Courses/ Modules/Units*					
CORE COMPONENT *Subjects/Courses/ Modules/Units*	Research Methods and Proposal			*20*	20
	Mobile Network and Simulations			*10*	10
	Mobile Sensor Networks			*10*	10
	Wireless and Advanced Network Technology			*20*	20
	Artificial Intelligence and Machine Learning			*20*	20
	Emerging Technologies in Mobile Computing			*10*	10
	Research Project: Dissertation			*30*	30
ELECTIVE/ OPTIONAL COMPONENT *Subjects/Courses/ Modules/Units*					
SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL					
TOTAL CREDITS PER NCQF LEVEL					
NCQF Level			***Credit Value***		

Fundamental component	***0***
Core component	***120***
Elective component	***0***
TOTAL CREDITS	***120***

Rules of Combination:

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

- This qualification will have at least 120 credits and take at least one year to complete.
- The credit combination for this qualification is from 120 core components.

ASSESSMENT ARRANGEMENTS

Two forms of assessment, formative and summative assessment will be used. The final mark is constituted of formative assessments (40%) and the summative assessment (60%). The student should complete 120 credits to complete the qualification.

MODERATION ARRANGEMENTS

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

RECOGNITION OF PRIOR LEARNING

Provision of RPL for award of the qualification will be in line with the National RPL Policy.

There is provision for awarding the qualification through RPL and CAT modes in accordance with institutional policies and guidelines.

CREDIT ACCUMULATION AND TRANSFER

Credit transfer will be applied in line with National Credit Accumulation and Transfer (CAT) Policy.

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

Learning Pathway:

Vertical:

Completion of a bachelor's Honours Degree in Mobile Computing meets the requirement for admission to a master's degree in the same or a cognate field such as:

- Master of Science (Honours) in Mobile Technologies
- Master of Science (Honours) in Mobile Computing
- Master of Science (Honours) in Games Programming

Horizontal:

A Bachelor of Science (Honours) in mobile computing candidate could continue to pursue a bachelor's honours degree qualification in any other university in the mobile computing specialized disciplines such as:

- Bachelor of Science (Honours) in Information Technology with specialism in Mobile Technology
- Bachelor of Science (Honours) in Games Programming
- Bachelor of Science (Honours) in Mobile Technologies

Employment Pathway:

The Bachelor of Science Honours in Mobile Computing is targeted at those wishing to become.

- Android and iPhone Mobile Applications Developer
- Mobile Technicians
- Mobile System Analyst
- E-business Entrepreneur
- Mobile Technology Manager
- Mobile Computing Specialists.
- Mobile Solution Specialist

Graduates of this qualification can choose several career paths which include jobs in various arenas where mobile devices are employed.

QUALIFICATION AWARD AND CERTIFICATION

The learner will be awarded **'Bachelor of Science (Hons.) in Mobile Computing'** after attaining 120 credits as specified in the rules of combination and credit distribution. A certificate and an official transcript will be issued upon successful completion of the qualification.

REGIONAL AND INTERNATIONAL COMPARABILITY

This qualification was compared with various universities running similar qualifications. The following universities and their qualifications were taken for the benchmarking:

Local: Not Available

Regional: Not Available

International:

- Bachelor of Science (Honours) in Mobile Computing, Arden University, London
- Bachelor of Science (Honours) in Mobile Computing with Entrepreneurship, Sunway University, Malaysia
- Bachelor of Computer Science (Honours) in Mobile Computing, Limkokwing University, Malaysia.

Summary of Benchmarking

With Limkokwing University, Malaysia.

Major Project 1, Wireless Network Security, Data Communication & Networking, Wireless Network, and Major Project 2 are similar modules which are available with both the qualifications.

This qualification has additional Modules such as Mobile Sensor Networks, Artificial Intelligence and Machine Learning, and Emerging Technologies in Mobile Computing. Limkokwing University provides additional modules

like Interactive Multimedia Design, Multimedia Technology, and Global Information System Management.

With Arden University:

The qualification offered by Arden University consist of modules such as Computer Systems Security, Current Trends in Networking, and Computing Project which are like the modules offered by this qualification.

Arden University has modules like Mobile Implementations and Management in IT which are not found with the curriculum of this qualification. While this qualification has additional modules like Mobile Sensor Networks, Artificial Intelligence and Machine Learning, and Emerging Technologies in Mobile Computing which are not part of Arden University curriculum.

With Sunway University :

Computer Networks, Artificial Intelligence, and Capstone Project 1 & 2 are similar modules which is available with both the qualifications.

This qualification has additional Modules such as Mobile Sensor Networks and Emerging Technologies in Mobile. Sunway University provides additional modules like Principles and Practice of Management, Scientific Ideas and Innovations and Electronic Commerce Development.

REVIEW PERIOD

5 Years