QUALIFICATION SPECIFICATION SECTION A							
QUALIFICATION DEVELOPER	BOTSWANA ACCOUNTANCY COLLEGE						
TITLE	Bachelor of Science in Applied Business Computing			**NCQF LEVEL**	7		
FIELD	Information and Communication Technology		**SUB-FIELD**	Computing and Business			
New qualification	✓		Review of existing qualification				
SUB-FRAMEWORK	Computing		TVET		Higher Education	✓	
QUALIFICATION TYPE	Certificate		Diploma		Bachelor	✓	
	Bachelor Honours		Master		Doctor		
CREDIT VALUE	480						

RATIONALE AND PURPOSE OF THE QUALIFICATION

RATIONALE

Business organizations have made Computer Science a support profession for business functions. This is evident in the formation of ICT departments whose sole purpose is to drive network support, hardware, and software installation functionalities. Hence, there is need to infuse computing into formulation of strategies that drive businesses. In recent surveys of the local business sector, there have been growing focus on ICT as part of the business value additions. Consequently, ICT is being given more attention at strategy and planning level. However, the sector has expressed concerns about the level and type of skills availability in the local market to drive effective ICT developments in business. In the human resource development needs on information technology, ICT skills shortage exist in areas of security of business system, business system analysis, business application integration, and application design. The specialized Bachelor of Science in Applied Business Computing degree taps into the growing demand for local business engineers and strategists with a flair of both business and computing. According to Botswana Accountancy College: Needs Assessment Report, 2019, “about 80% of the respondents indicate that the qualification is relevant

to the Human resource needs in Botswana, with just about 4.6 % indicating that it is not relevant." The HRDC indicators on human resource development needs on information technology and entrepreneurship formed a useful anchor in the development of this qualification.

PURPOSE

The qualification is designed to ensure that graduates from this qualification have the educational grounding and intellectual development to take full advantage of career opportunities in the field of business and computing. The qualification is specifically structured to address skills gaps reported by the industry sector around ICT and business. It is an entry level qualification for professionals who are entering the industry, particularly professionals with keen interest in business analysis, application development, and computer networking.

The qualification is designed to forge a strong link with the applied business computing requirements of industry, as addressed by industry specific training provided by bodies like SAP, CISCO, ISACA, Microsoft certifications and CBA. This means that the qualification is structured in a manner that infused the industry specific training requirements and objectives of these professional bodies into the key learning outcomes. Graduates of this qualification are therefore positioned to obtain certification by these professional bodies. Graduates are relevant both in academic sense and in terms of industry specific competency sense.

In the qualification, graduates are exposed to not just knowledge of business and computing and to the logical thinking and system and business models but also to ways of modelling business as entities that require abstract understanding, complex and careful management. In this process, graduates engaged in professional ethics and ethical behavior scenarios, in addition to exposure to industry activities through placement. This gives graduates the needed exposure to the work environment for the development of soft skills. On the basis of this, the purpose of the qualification is to produce graduates:

1. who are techno savvy in blending business and technology.
2. with knowledge and competence to apply computing in business.
3. who can use a variety of computing resources to foster business opportunities.
4. who can create business solutions from computing technology and manage such solutions for future enhancements.

ENTRY REQUIREMENTS (including access and inclusion)
Entry to this qualification is through <u>any one</u> of the following: a. Minimum entry level is NCQF Level 4 or equivalent, with a minimum of 6 subjects passed with a combination of Mathematics or Physics with English; plus any other 4 subjects that may include Statistics, Accounts and /or Commerce/Business Studies. b. **Recognition of Prior Learning (RPL):** There will be access through Recognition of Prior Learning (RPL) and Credit Accumulation and Transfer (CAT) in accordance with the RPL and CAT National Policies.

QUALIFICATION SPECIFICATION	SECTION B
GRADUATE PROFILE (LEARNING OUTCOMES)	**ASSESSMENT CRITERIA**
LO1: Demonstrate knowledge and understanding of using computing to produce business solutions.	1.1 Develop suitable software solutions for business. 1.2 Critically assess and identify security challenges associated with protecting business systems. 1.3 Make business processes efficient. 1.4 Use quantitative analysis to management decision making.
LO2: Apply analytical skills and decision-making skills in the formulation of computer applications for businesses.	2.1 Apply basic methods to solve a range of relatively simple problems. 2.2 Evaluate and discuss the application of a range of algorithms to solve more complex problems. 2.3 Critically analyze business solutions.
LO3: Demonstrate ability to be self-reliant, innovative, entrepreneurial, and assertive	3.1 Participate effectively in interdependent learning activity and function effectively as an independent learner. 3.2 Manage own time and work to deadlines, show initiative and work independently.

	3.3 Demonstrate commitment to enabling team dynamics.
LO4: Analyse the factors that influence the operations of various developed business applications within diverse business environments.	4.1 Decide on the choice of suitable business application solutions. 4.2 Manage business solutions. 4.3 Critically evaluate heuristics encountered in their studies.
LO5: Critically evaluate software development solution strategies for business problems, implement and maintain them.	5.1 Analyze an existing business and be able to design and develop computerized solution that can meet the business needs. 5.2 Critically evaluate software product development strategies, tools, techniques, and methodologies. 5.3 Critically evaluate security strategies for business assets. 5.4 Apply project management techniques to model, solve and deploy business solutions. 5.5 Apply logic and programming constructs in delivering business solutions.
LO6: Evaluate networking systems, network security solutions and run various operations in the networking field as professional and with high level of professionalism.	6.1 Develop practical skills of designing, and deploying Wi-Fi, PANs, LANs, and WANs. 6.2 Implement Practical configuration and administration of Windows Server and cisco network devices. 6.3 Demonstrate theoretical and practical knowledge of network security and information security.
LO7: Demonstrate high personality traits and ability to work as an effective team member, be consultative and be conscious with meeting deadlines.	7.1 Work as a member of a team and demonstrate /show inter-personal skills. 7.2 Show Collaboration and interpersonal skills in self-expression.

	7.3 Display professional Ethics and code of conduct all round. 7.4 Identify personal needs, strengths and opportunities for improvement

QUALIFICATION STRUCTURE			**SECTION C**
FUNDAMENTAL COMPONENT Modules	Modules **Title**	**Level**	**Credits**
	Systems Development	5	20
	Computer related Mathematics and Statistics	5	20
	Web and Multimedia Development	5	20
	Computer Technology	5	20
	Introduction to programming using C#	5	15
CORE COMPONENT Subjects / Units / Modules /Courses			
	Electronic Commerce	6	20
	Research and Innovation	6	20
	Object Oriented Analysis and Design with C#	6	20
	Database Design and Development	6	20
	Quantitative Analysis for Business	6	20
	Computer Networks	6	20
	Advanced Web Development	6	20
	Computer Systems Administration	6	20
	Business Information Systems	6	20
	Industry Attachment	6	60
	Information Security	7	20
	Research (Dissertation)	7	25
	Product Development	7	20
	Business Intelligence & Strategy	7	20
	Web Information Systems for Business	7	20
	User Experience Design	7	20
	Software Enterprise	7	20
	GRAND TOTAL CREDIT		**480**
ELECTIVE COMPONENT Subjects / Units / Modules /Courses	**No Electives**		
Rules of combinations, Credit distribution (where applicable):			

The total number of credits at (level 5) = 95 (level 6) = 240 and (level 7) = 145. For this qualification, students will do all the modules. A total of 480 credits must be completed to obtain the bachelor's degree.

ASSESSMENT AND MODERATION ARRANGEMENTS

ASSESSMENT ARRANGEMENTS

FORMATIVE ASSESSMENT (40%)

The contribution of formative assessment to the final grade shall be 40%.

SUMMATIVE ASSESSMENT (60%)

The contribution of summative assessment to the final grade shall be 60%.

Assessment shall be carried out by BQA registered and accredited Assessors.

MODERATION ARRANGEMENTS

Moderation is done on all assessments that earn a student grade towards attainment of the qualification. It is two-fold covering internal and external moderation.

Internal moderation arrangements

Internal moderation is done locally to uphold quality issues. It is done on all assessments that lead to the attainment of the qualification. It is done following an internal moderation instrument. Evidence of moderation will be in the form of moderation reports. Observations from the moderators are actioned by examiners to keep up with quality. After internal moderation is complete, external moderation takes place.

External Moderation arrangements

External moderation takes place after the internal moderation process has been completed. The External moderator moderates the assessment before and after it is attempted. It is done following an external

moderation instrument. In the latter case, the moderator is presented with a sample set of marks and a sample set of assessments. Due diligence, confidentiality and anonymity is practiced.

RECOGNITION OF PRIOR LEARNING (if applicable)

RPL and CAT will be considered towards the awarding of the qualification. RPL allows for the recognition of knowledge, skills and attributes acquired through formal and non-formal learning experiences. The Learning experience is evaluated to determine its validity and reliability when measured against the learning outcomes of a specific qualification, learning qualification for the purpose of recognition, and awarding the qualification.

Provisions are in place to accommodate appeal of the decisions; in the event the candidate chooses.

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

LEARNING PATHWAYS

Vertical Progression

Upon completion of the qualification graduates can progress into,

Master of Science in Computer Science,

Master of Science in IT,

Master of Science in Business administration,

Master of Science in Project management.

Horizontal Progression

Learners can progress across qualifications based on Credit Accumulation and Transfer. Learners can articulate horizontally into,

Bachelor of Science in Business Intelligence and Data Analytics,

Bachelor of Science in Information and Communication Technology.

EMPLOYMENT PATHWAYS

Upon completion, graduates can attain jobs in various computing and business disciplines beginning at entry level point for the positions. They could venture into industry as,

Entrepreneurs,

System Analysts,

Business analysts,

Network administrators,

Developers,

Database administrators and IT auditors.

They can further enhance their employment opportunities by establishing themselves with professional bodies like SAP, CISCO, ISACA, Huawei, Microsoft certifications and CBA.

QUALIFICATION AWARD AND CERTIFICATION

For a Candidate to achieve this qualification they must have acquired a minimum of **480** credits. The Candidate should pass all the **Fundamental and Core** modules.

Certification

A **Bachelor of Science in Applied Business Computing** will be awarded to a Candidate upon completion of the qualification in accordance with applicable policies. A certificate and transcript will be issued at award.

REGIONAL AND INTERNATIONAL COMPARABILITY

International Benchmarking

The qualification was developed as a top up qualification underpinning the University of Sunderland qualification. Internationally the qualification is considerably underpinned to University of Sunderland that provides an Honours qualification.

The relevant Quality Assurance Agency for higher education (QAA) subject benchmark statements (Refer to www.qaa.co.uk). In addition to the QAA, qualification will go a long way in addressing the scarce skills identified by Human Resource Development Council (HRDC) e.g., in ICT. Therefore, the design of the qualification was informed by such. Comparability of Applied Business computing with that of an international University in Croatia; University of Dubrovnik's Applied/Business Computing qualification [15]. The comparison shows that 10 out 15 modules are similar, excluding Industrial attachment. This is 67%

similarity, which is mainly in concepts of mathematics and statistics, computer networks, databases and programming. The difference is in the modules Web Development and Electronic Commerce, while Dubrovnic University's focusses on Digital Systems and Digital Signal processing. Hence, Web development for local businesses and e-commerce skills are important for local market. The names are very similar.

Regional Benchmarking

Comparability of Applied Business Computing qualification with that of an international recognized and number 1 University in South Africa and number 136 University in the world; University of Cape Town qualification called Business Computing [16] [17]. The comparison shows that 17 out 21 modules are similar, excluding Industrial attachment. This is 81% similarity, which is mainly in concepts of mathematics and statistics, databases, and programming. This time the difference is visible in Computer Networks and Information Security modules, which were like Dubrovnic University's but now not taught by University of Cape Town. The international University showed that these fields are necessary. The local market obviously needs these fields. E-commerce that is not taught by Dubrovnic University is being offered by University of Cape Town, which confirms that this is an important concept for the region. Applied Business Computing qualification runs for 4 years. The names are very similar. Learning outcomes are comparable with only LO6 not matching to any.

REVIEW PERIOD

The review period is 5 years.