SECTION A:	QUALIFICATION DETAILS		
QUALIFICATION DEVELOPER (S)	Botswana Accountancy College		
TITLE	Bachelor of Science in Financial Technology	**NCQF LEVEL**	7
STRANDS (where applicable)	Not Applicable.		
FIELD	Information and Communication Technology	**CREDIT VALUE**	480
SUB FIELD	Information Technology		

New Qualification	X	Legacy Qualification		Renewal Qualification	
				Registration Code	

SUB-FRAMEWORK	General Education		TVET		Higher Education

QUALIFICATION TYPE	Certificate	I	II	III	IV	V	Diploma	Bachelor	X

	Bachelor Honours		Post Graduate Certificate		Post Graduate Diploma
	Masters			Doctorate/ PhD	

RATIONALE AND PURPOSE OF THE QUALIFICATION

RATIONALE

Technology has not only changed the way financial services and products are delivered to clients, but it also plays a central role in investment decision making and credit risk analysis. This has led to the development of technological tools commonly referred to as FinTech. According to uschamber.com, FinTech is the term used to describe any technology that delivers financial services through software, such as online banking, mobile payment apps, and cryptocurrencies (U.S. Chamber of Commerce, n.d.). The global investment in FinTech has been on an upward trajectory over the years, reaching USD 168 billion in 2019 from USD 59.2 billion in 2017, indicating a 283% increase, as reported by statista.com (Statista, 2021).

At the national level, as contained in hrdc.org.bw, the HRDC forecasts a growth in emerging skills to support a knowledge-based economy envisioned within NDP11. Such skills should be technologically driven and able to support a cross-section of industries, including finance. The HRDC has further published a list of priority skills, which include Data Analysts, Data Scientists, Machine Learning Specialists, Big Data specialists, and Digital Transformation Specialists, to replace traditional accountants, bank tellers, and clerks among others (HRDC, 2017, 2019). This is corroborated by siliconprairienews.com, which observes that finance (and its subdisciplines) has become more data-driven than it was five years ago (Silicon Prairie News, 2019). As such, possessing a finance major alone has become increasingly insufficient to be competitive in the global workforce. The FinTech program seeks to fuse finance and technology and aligns well with Botswana's Vision 2036 and NDP11, emphasizing the transformation of the country into a knowledge-based economy and the production of a globally competitive human resource (HRDC, 2017). According to catalog.creighton.edu, a program that provides learners with the opportunity to complete rigorous core coursework of a traditional finance major while also developing a solid technical background to complement their finance knowledge will give them a significant advantage in the global labor market compared to their peers (Creighton University, n.d.). This could potentially spur investments in FinTech, particularly in the startup space.

PURPOSE: (itemise exit level outcomes)

The purpose of BSc Financial Technology is to produce graduates with highly specialized knowledge, skills and competences to be able to:

a) Apply and integrate contemporary technologies to provide solutions to financial problems.

b) Develop and deploy end-to-end digital tools for the financial services sector.

c) Uphold and advocate for ethical standards in the financial and technological services sector.

d) Analyse, evaluate, communicate and present outcomes of financial technology solutions in the financial services sector.

MINIMUM ENTRY REQUIREMENTS (including access and inclusion)

Entry into this qualification is through any one of the following:

(a) The minimum entry requirement is Certificate IV, NCQF Level 4 (e.g BGCSE) or other equivalent with passes in relevant subjects.

OR

(b) Candidates not meeting the minimum entry will be considered through recognition of prior learning in accordance with RPL policies.

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SECTION B	QUALIFICATION SPECIFICATION
GRADUATE PROFILE (LEARNING OUTCOMES)	**ASSESSMENT CRITERIA**
1. Apply computing technology to produce fintech solutions.	1.1. Develop fintech solutions that align with current trends, incorporating innovative approaches and staying abreast of advancements in the fintech sector. 1.2. Use mathematical and statistical concepts to effectively model fintech solutions, leveraging quantitative methods to drive accurate and informed decision-making in the fintec industry.

	1.3. Implement technologies that drive innovation and disruption within the financial services sector, facilitating the implementation of cutting-edge solutions.
	1.4. Use innovative approaches for generating trading signals in the financial trading markets.
	1.5. Employ analytical methodologies to effectively optimize investor returns for a given portfolio in financial trading.
	1.6. Identify factors that influence investment decisions within the financial services sector.
	1.7. Recommend fintech solutions to support informed investment decisions in the financial services sector.
2. Analyse technology used in financial environments.	2.1. Integrate financial and technological concepts in financial services sector.
	2.2. Evaluate the impact of financial technologies on operational efficiency in financial institutions.
	2.3. Distinguish the primary fintec technologies used in financial environments.
	2.4. Critically assess the influence of fintech applications on traditional banking systems.
	2.5. Utilize strong interpersonal skills to foster collaboration and teamwork in a professional environment.
	2.6. Use professional code of ethics to guide behaviour in the fintec industry.
	2.7. Conduct research to improve knowledge to solve new problems in financial services sector.

	2.8. Compare and contrast personal value systems, growth, and practices with alternative approaches, fostering a reflective mindset relevant for the Financial services sector.
	2.9. Engage in critical evaluation of diverse fintech environments, examining them from multiple perspectives and discerning their strengths and weaknesses.
	2.10. Utilize industry reports and case studies to illustrate the practical application of financial technologies.
3. Apply standard methodologies and tools to devise solutions to fintec problems.	3.1. Develop solutions to fintec problems using CRISP-DM methodology in the finance sector. 3.2. Assess software product development strategies, tools, techniques, and methodologies that ensure informed decision-making in the financial services space. 3.3. Design and implement disruptive models to make informed decisions and optimize the performance of financial assets. 3.4. Utilize data analysis and algorithms to deliver innovative fintech solutions, leveraging insights for improved outcomes. 3.5. Employ critical evaluation to assess different development models and select the most suitable approach for a given fintec scenario.
4. Demonstrate professionalism in solving fintec problems.	4.1. Collaborate effectively as a team member in developing fintec solutions. 4.2. Manage time, work independently and meet deadlines when solving fintec problems. 4.3. Practise emotional intelligence by recognizing personal needs, strengths, and areas for

	improvement, showcasing self-awareness, emotional regulation, and a commitment to personal and professional growth

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SECTION C		**QUALIFICATION STRUCTURE**			
COMPONENT	**TITLE**	**Credits Per Relevant NCQF Level**			**Total Credits**
		Level [5]	**Level [6]**	**Level [7]**	
FUNDAMENTAL COMPONENT Subjects/ Courses/ Modules/Units	Introduction to Financial Technology	15			15
	Financial Mathematics	15			15
	Fundamentals of Business Finance	15			15
	Business communication	15			15
	Probability and statistics		15		15
	Economics		15		15

	Business Management		15		15
CORE COMPONENT Subjects/Courses/ Modules/Units	Financial Accounting in a Computerized environment		15		15
	Introduction to Programming (Python)	15			15
	Database Design and Development		15		15
	Ethics and professional conduct			15	15
	Business Process Analysis	15			15
	Project Management			15	15
	Cyber Security in financial Services		15		15

	Industrial Attachment			60	60
	Applied Financial Technology project			30	30
	Financial Managemnt		15		15
	International financial institutions and markets		15		15
	Stochastic process for Finance			15	15
	Derivatives and Risk management			15	15
	Financial Modelling and algorithmic trading			15	15
	Machine Learning for Finance		15		15

	Blockchain Development		15		15
	Big Data Analytics		15		15
	Deploying ML Models			15	15
	Artificial Intelligence for financial risk management			15	15

STRANDS/ SPECIALIZATION	Subjects/ Courses/ Modules/Units	Credits Per Relevant NCQF Level			Total Credits
		Level [5]	Level [6]	Level [7]	
Electives	Entreprenureship and Innovation in			15	

Leaners are eligible to choose any two.	Financial Technology				30
	Management Science			15	
	Financial Strategy			15	
	Regulatory Technology			15	
	Investment Analysis and Portfolio Management			15	
	Mobile payment and settlement systems			15	

SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL	
TOTAL CREDITS PER NCQF LEVEL	
NCQF Level	**Credit Value**
5	**90**
6	**165**
7	**225**
TOTAL CREDITS	**480**

Rules of Combination:

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

- This qualification will have at least 480 credits and take at least four years to complete including a full semester industry attachment under the normal fulltime mode of study.
- The 60 credits industry attachment module may be done after the learner has attained at least 195 credits worth of modules.
- The credit combination for this qualification is from 105 fundamental components, 345 core components and the remaining 30 is from elective component.

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ASSESSMENT ARRANGEMENTS

Assessment shall consist of the following:

    Formation assessment (60%)

    Summative assessment (40%)

MODERATION ARRANGEMENTS

MODERATION

There is provision for internal and external moderation on all assessments.

RECOGNITION OF PRIOR LEARNING

There is provision to award credits through Recognition of Prior Learning.

CREDIT ACCUMULATION AND TRANSFER

Candidates may submit evidence of credits accumulated in related qualifications to be credited for the qualification they are applying for.

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

LEARNING PATHWAYS

Vertical pathways

    a) Bachelor(Honors) in Financial Technology

    b) Post graduate certificate in Financial Technology

    c) Master of Science in Financial Technology

Horizontal Pathways

    a) Bachelor of Science in Financial Engineering

    b) Bachelor of Science in Digital Transformation

EMPLOYMENT PATHWAYS

After completing the qualification, graduates have opportunities to pursue careers in diverse computing fields. They may enter the industry as:

    a) Financial Technology Analyst

    b) Fintech Product Manager

c) Blockchain Solutions Architect

d) Digital Banking Consultant

e) Cybersecurity Specialist in Fintech

QUALIFICATION AWARD AND CERTIFICATION

Qualification award:

To be awarded a Bachelor of Science in Financial Technology, the candidate must have attained a minimum of 480 credits.An award of Bachelor of Science in Financial Technoloty will be made when all requirements are met.

SUMMARY OF REGIONAL AND INTERNATIONAL COMPARABILITY

INTERNATIONAL BENCHMARK

Bachelor of Science in Financial Technology-New Jersey Institute of Technology

Bsc Financial technology from New Jersey is positioned at EQF level 6 using the US credit system with 120 credits while the proposed qualification is aligned with Botswana's NQF level 7 with a total of 480 credits. The difference in credits is similar because they both constitute a bachelor's degree. Both qualifications are 4 years long. The New Jersey qualification has a strong focus on integrating technology with business concepts emphasizing on quantitative analysis, busine ethics, teamwork, and global business contexts. The proposed qualification strikes a balanced approach between finance and technology (40:60), covering both fundamental finance principles and advanced technological skills (AI, machine learning, big data). It uniquely includes industry attachment, enhancing practical exposure. Both qualifications show a high similarity (71%) in core modules with both covering essential finance topics such as financial management, financial derivatives and risk abnalysis, while also integrating machine learning and block chain technologies.

Bachelor of Science in Finance (Financial Technology)-University of Reading

BSc Finacance (financial Technology) is positioned at EQF/RQF level 6 using the UK credit system with 360 credits while the proposed qualification is aligned with Botswana's NQF level 7 with a total of 480 credits. The difference in credits is similar because they both constitute a bachelor's degree. Reading qualification is 3 years long with an optional placement year. This shorter duration is due to its entry requirements which involves advanced levels, unlike the proposed , which accepts BGCSE or equivalent and takes 4 years long. The qualification from Reading emphasizes finance more than technology (2:1 finance to technology ratio). It includes modules on quantitative techniques, econometrics, and sustainable finance with a core focus on adapting to rapidly evolving financial landscapes. The proposed qualification strikes a balanced approach between finance and technology (40:60), covering both fundamental finance principles and advanced technological skills (AI, machine learning, big data). It uniquely includes industry attachment, enhancing practical exposure. The two qualifications are approximately 65% similar with reading focussing more on Finance.

REGIONAL BENCHMARKING.

There are currently no regional qualifications in Financial Technology to benchmark with.

REVIEW PERIOD

The review period is 5 years.

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BQA NCQF QUALIFICATION TEMPLATE

For Official Use Only:

CODE (ID)			
REGISTRATION STATUS	BQA DECISION NO.	REGISTRATION START DATE	REGISTRATION END DATE
LAST DATE FOR ENROLMENT		LAST DATE FOR ACHIEVEMENT	