

BQA NCQF QUALIFICATION TEMPLATE

SECTION A: QUALIFICATION DETAILS														
QUALIFICATION DEVELOPER (S)				BA ISAGO UNIVERSITY										
TITLE		Master of Science in Environmental Health						NCQF LEVEL			9			
STRANDS (where applicable)		None												
FIELD		Natural, Mathematical and Life Sciences						CREDIT VALUE			240			
SUB FIELD		Environmental Chemistry												
New Qualification			Legacy Qualification			Renewal Qualification			✓					
						Registration Code			Q0233					
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: The increasing prevalence of environmental degradation, climate change and ecosystem disruption has intensified environmental health risks globally and within Botswana, with direct implications for human health, productivity and sustainable development. These challenges are compounded by rapid urbanization, waste management pressures, pollution and the emergence and spread of communicable and environmentally driven diseases. Addressing these complex and interlinked issues requires a workforce equipped with advanced, multidisciplinary competencies in environmental health, risk assessment, data analysis and policy implementation. The Botswana National Development Plan 12 (2025–2030) underscores the centrality of environmental sustainability, climate resilience and inclusive economic growth as pillars for national transformation. The plan														

emphasizes the need to mainstream climate change across sectors, strengthen environmental protection programmes and support public health interventions such as disease control, sanitation and waste management systems. These priorities highlight the growing demand for specialized environmental health expertise to support policy implementation, regulatory compliance and evidence based decision making.

Furthermore, the need for this qualification is strongly justified by the Human Resource Development Council (HRDC) Priority Skills Report (2025), which highlights that emerging global challenges such as climate change, environmental degradation and public health risks are driving demand for new, specialized skills, requiring training programmes that integrate environmental and health competencies.

In this context, the proposed qualification is highly relevant as it directly addresses the identified skills gap in environmental health and related scientific fields by producing graduates with the capacity to assess, manage and mitigate environmental health risks. The qualification is designed to equip learners with critical analytical, research and problem-solving skills required for effective environmental monitoring, disease prevention, occupational health management and sustainable resource use. The interdisciplinary nature of the qualification ensures that graduates are able to bridge the gap between environmental science and public health, enabling them to contribute meaningfully to national priorities such as climate adaptation, pollution control and health systems strengthening.

The Master of Science in Environmental Health has demonstrated an emerging demand, particularly among in-service professionals seeking advanced qualifications. Enrolment trends indicate that the programme commenced with 6 students in 2024, followed by a slight increase to 7 students in 2025. These figures reflect a modest but expected start, characteristic of newly introduced postgraduate programmes. Importantly, this gradual growth signals a positive trajectory, suggesting increasing awareness and uptake of the programme among target groups. Given the expanding national focus on environmental sustainability, public health and climate resilience, as well as the recognised skills gaps in environmental health, enrolment is expected to grow steadily over time.

PURPOSE: (itemise exit level outcomes)

The purpose of this qualification is to produce graduates who have advanced knowledge, skills, and competencies to:

- Address complex environmental health challenges arising from anthropogenic activities, natural processes, and human environment interactions, with a focus on safeguarding public health and environmental safety.

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- Conduct rigorous empirical research and professional inspections in environmental health to generate scientific evidence that informs policy, decision-making, and practical interventions.
- Critically evaluate the relationship between the environment and human health, including the ability to assess, monitor and manage environmental and occupational health risks at local, national and global levels.
- Design, implement and evaluate appropriate intervention strategies to address specific environmental health challenges, supported by the analysis and interpretation of environmental health data for effective, evidence based problem solving.

MINIMUM ENTRY REQUIREMENTS (including access and inclusion)

Minimum entry requirements:

- Bachelor's Degree NCQF Level 7 in the same or cognate field of study.
- Candidates who do not meet the above minimum entry requirements will be considered through
- Recognition of Prior Learning (RPL) and Credit Accumulation and Transfer (CAT) as specified in policies by the Education and Training Provider (ETP) in line with the National RPL and CAT policies.

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SECTION B QUALIFICATION SPECIFICATION	
GRADUATE PROFILE (LEARNING OUTCOMES)	ASSESSMENT CRITERIA
1. Critically analyze complex environmental health challenges and apply advanced risk assessment and management approaches to protect public and environmental health in diverse contexts	1.1 Evaluate environmental hazards (chemical, biological, physical) using appropriate frameworks. 1.2 Applies risk assessment models to identify exposure pathways and quantify health risks. 1.3 Integrates environmental, epidemiological and socio-economic data to inform decision-making. 1.4 Recommends evidence-based risk mitigation and management strategies aligned to policy and regulatory requirements. 1.5 Demonstrates sound judgement in managing

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	uncertainty, incomplete data and complex environmental systems.
2. Implement environmental health interventions, ensuring compliance with legal, ethical and professional standards in workplace and community settings.	2.1 Conducts environmental health inspections and audits in line with regulatory frameworks. 2.2 Engage in capacity building (stakeholder consultation and engagement) and public education addressing environmental health and management of emanating problems. 2.3 Designs targeted interventions to address environmental health issues (e.g., food safety, occupational hazards, pollution). 2.4 Apply relevant legislation, standards and policy frameworks in decision-making. 2.5 Evaluates the effectiveness and sustainability of interventions using appropriate indicators and tools. 2.6 Demonstrates ethical responsibility and professional accountability in practice.
3. Demonstrate leadership and strategic decision making in environmental health, contributing to policy development, programme management, and organisational effectiveness.	3.1 Analyses and interprets environmental health policies, strategies, and legislative frameworks. 3.2 Provides informed recommendations to support environmental health policy development and programme planning. 3.3 Demonstrates leadership in multidisciplinary teams and stakeholder engagement processes. 3.4 Applies critical and reflective thinking in making strategic decisions under complex and changing conditions. 3.5 Communicates effectively with stakeholders

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	(government, industry, communities) to influence positive environmental health outcomes.
4. Conduct advanced independent research that contributes to the body of knowledge and informs environmental health practice and policy.	4.1 Formulates relevant and researchable environmental health problems grounded in real-world contexts. 4.2 Apply appropriate quantitative, qualitative, or mixed research methods. 4.3 Analyses complex datasets using statistical and epidemiological tools. 4.4 Produce coherent, logically structured research report/dissertation meeting academic and professional standards. 4.5 Communicates research findings effectively to both specialist and non-specialist audiences for policy or practice impact.
5. Address complex environmental health challenges using a systems thinking approach in diverse and dynamic contexts.	5.1 Integrate knowledge from multiple disciplines to develop a comprehensive understanding of environmental health problems. 5.2 Evaluate the impact of environmental determinants such as climate change, urbanisation, housing conditions and infrastructure on human health outcomes. 5.3 Develop contextually relevant, sustainable and integrated solutions to environmental health challenges. 5.4 Demonstrate advanced problem-solving and independent judgement in managing complex environmental health systems.

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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	Advanced Research Methods		15		15
CORE COMPONENT Subjects/Courses/ Modules/Units	Advanced Occupational Health and Safety	12			12
	Food Safety, Hygiene and Environmental Toxicology	15			15
	Environmental Risk Assessment and Management		15		15
	Environmental Engineering for Public Health		16		16
	Environmental Epidemiology and Communicable Diseases		15		15
	Water, Sanitation and Hygiene (WASH)		15		15
	Climate Change and Environmental Health		15		15
	Waste Management and Pollution Control	12			12

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	Biostatistics & Epidemiological Modelling		20		20
	Dissertation		80		80
STRANDS/ SPECIALIZATION	Subjects/ Courses/ Modules/Units	Credits Per Relevant NCQF Level			Total Credits
		Level [8]	Level [9]	Level [x]	
1.	None				
2.	None				
Electives (<i>Choose 1</i>)	Global Health and Humanitarian Practice		10		10
	Housing, Urbanization and Environmental Health		10		10

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SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL

TOTAL CREDITS PER NCQF LEVEL

NCQF Level	Credit Value
Level 8	39
Level 9	201
TOTAL CREDITS	240

Rules of Combination:

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

The credit combination for this qualification consists of 15 credits from the fundamental component, 215 credits from the core component and 10 credits from the electives component.

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ASSESSMENT ARRANGEMENTS

Formative and summative assessments through coursework, exams, and research projects.

- **Formative Assessment**

The weighting of formative assessment is 60% of the final assessment mark.

- **Summative Assessment**

The weighting of summative assessment is 40% of the final assessment mark.

Assessments will be conducted by assessors who possess qualifications at NCQF Level 10 in a related field.

MODERATION ARRANGEMENTS

There will be provision for internal and external moderation, conducted by Moderators registered with Botswana Qualifications Authority (BQA). Moderation will be conducted by moderators who possess qualifications at NCQF Level 10 in a related field.

RECOGNITION OF PRIOR LEARNING

Recognition of Prior Learning (RPL) will be applicable for consideration for award in this qualification, in line with RPL institutional policies on the same.

CREDIT ACCUMULATION AND TRANSFER

Credit Accumulation Transfer (CAT) will be applicable for consideration for award in this qualification, in line with RPL institutional policies on the same.

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

Learning Pathways

Vertical Articulation

- Doctor of Philosophy in Environmental Health
- Doctor of Philosophy in Public Health
- Doctor of Philosophy in Environmental Management
- Doctor of Philosophy in Environmental Science.
- Doctor of Philosophy in Public Policy and Health

Horizontal Articulation

- Master of Science in Public Health.
- Master's Degree in Public Policy and Health
- Master of Science in Environmental Management.
- Master of Science in Environmental Science

Employment Pathways

- Environmental Health Inspector
- Health Inspector.
- Sustainability Specialists
- Environmental Auditors
- Researchers
- Health and Environment Auditors/advisors
- Environmental Control/Protection Managers

QUALIFICATION AWARD AND CERTIFICATION

Candidates meeting the prescribed requirements will be awarded the qualification in accordance with the qualification composition rules and applicable policies. To be eligible for the award of the Master of Science in Environmental Health candidates should have passed all course work assignments and the final examination and obtained a minimum of 240 credits. A certificate will be issued to learners who are awarded the qualification.

SUMMARY OF REGIONAL AND INTERNATIONAL COMPARABILITY

The Master of Science in Environmental Health has been benchmarked with the following regional and international qualifications.

- Master of Science (Environmental Health); Malawi University of Business and Applied Sciences (MUBAS)
- Master of Science in Environmental Health; University of Johannesburg; South Africa
- Master of Science in Environmental Health; Leeds Beckett University; England

The benchmarking exercise revealed that the proposed Master of Science in Environmental Health compares favourably with similar qualifications offered by regional and international universities. All qualifications aim to equip graduates with advanced knowledge in environmental health, strong research competence, analytical skills and the ability to apply evidence based approaches to environmental and public health challenges.

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Similar to the qualification offered by the University of Johannesburg and Malawi University of Business and Applied Sciences, the proposed Master of Science in Environmental Health is pitched at Level 9, following the respective national qualification frameworks (NQF/HEQF). However, there is a variation in level placement, for the qualification offered by for Leeds University which is placed at FHEQ Level 7.

The Master of Science in Environmental Health is pitched at the same level (NCQF and HEQF Level 9) and carries comparable credits (240) to the qualification offered by the Malawi University of Business and Applied Sciences (MUBAS). However, there are notable differences that exist in credits and duration, reflecting variations in national qualification systems, for example the University of Johannesburg qualification carries 180 credits over a duration of 2 years, while, Leeds Beckett University offers a one year qualification, carrying 180 credits.

All qualifications demonstrate strong alignment in their coverage of key environmental health domains such as epidemiology, environmental risk assessment, occupational health and safety, food safety, and environmental protection, ensuring that graduates are equipped with the essential knowledge and skills to operate effectively within environmental health systems. However, the proposed qualification distinguishes itself by incorporating a strong emphasis on multidisciplinary integration, climate change and environmental health systems. The benchmarked qualifications also show consistency in their research orientation, with all qualifications requiring learners to undertake independent research culminating in a dissertation or research project. Assessment approaches across the qualifications incorporate a mix of coursework, practical application and research-based evaluation to ensure that learners achieve the intended learning outcomes.

All qualifications support similar academic and professional progression pathways. The proposed Master of Science in Environmental Health, like those offered by other Universities, prepares graduates for roles in environmental health practice, policy development, research and consultancy, as well as progression to doctoral studies in environmental health and related disciplines.

REVIEW PERIOD

This qualification will be reviewed after every 5 years.

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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	

