SECTION A:	***QUALIFICATION DETAILS***																	
QUALIFICATION DEVELOPER (S)	BA ISAGO UNIVERSITY																	
TITLE	Master of Science in Environmental Health															***NCQF LEVEL***	*9*	
FIELD	Health & Social Services			***SUB-FIELD***	Environmental Health											***CREDIT VALUE***	*240*	
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 activities have had effect on the environment which in turn has influenced climatic conditions associated with health challenges. Such health challenges call for development of human capital at higher level of education that possess critical and analytical skills. The significance of environmental health is noted through government prioritising the development and implementation among others the National Quality Health Standards for hospitals, clinics, and environmental health. With reference to National Development Plant 11 (NDP11) the Government will continue with measures that contribute to the reduction of environmental health associated risks in the country (Ministry of Finance and Development, 2016), hence, a need for this qualification. The NDP 11 agenda on Environmental Protection Programme has also focused on mainstreaming climate change in relation to both mitigating the effects of emissions, and developing adaptation strategies for economic diversification, agriculture growth, malaria eradication, control of communicable diseases, and development of policies and strategies: thus, achieving environmental health issues (Ministry of Finance and Development, 2016). Furthermore, it is important to note that environment and health are not mutually exclusive; therefore, training a well-rounded learners/researcher with integrated research skills incorporating the enviro-health will benefit the country (and beyond). Therefore, this multi-disciplinarily approach of environmental health requires

skilled, knowledgeable, analytical, critical thinkers, adaptable, impactful, and dynamic personnel to better manage workers' health and well-being as well as the general biophysical environment; hence, this qualification. Similarly, the Environmental Protection Professionals are listed under code 2133 as top occupations in high demand (HRDC, 2016) therefore, this calls for enhanced skill human capital development with occupation specific qualifications that match the labour market as echoed by the Human Resource Development Council's approach of achieving industry driven oriented personnel (Human Resource Development Council, 2017). The significance and need for human capital with environmental health expertise is echoed by a study which highlighted that with filled posts standing at 70 by 2014, while recommended capacity expected to be at 164, indicates that there is a need to train more Environmental Health specialists, especially at graduate level (Nkomazana et al, 2014).

PURPOSE:

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

- Address challenges (anthropogenic environmental and natural factors) presented by the interaction between humans and their environment and the overall safety.
- Carry out empirical research and inspections on environmental health field to generate scientific knowledge necessary to inform decisions and address problems in Environmental Health.
- Evaluate the role of environment in human health as well as abilities to assess Health and Environmental risks at the workplace and beyond.
- Design and implement appropriate intervention strategies for specific environmental health problems as well as statistically and qualitatively analyse and interpret environmental health data to solve problems.

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***
LO 1. Evaluate critically the role that the environment plays in human health.	1.1 Detect and categorise human activities affecting the environment. 1.2 Critique how the environment influences human activities (Environmental determinism). 1.3 Analyse human-environment interactions.
LO 2. Measure the health and environmental risks at the workplace.	1.4 Analyse characteristics of major chemical, physical, and biological hazards and the properties that govern the hazards' behaviour in the environment. 1.5 Investigate the general agents of pollution and design control and management measures. 1.6 Explore relevant theories and concepts to critique key causes of workplace, health and environmental hazards
LO 3. Interrogate the scientific characteristics (route of exposure, dose response, and mode of action) of major biological, chemical, and physical hazards that result in human health risk.	3.1. Investigate the physio-toxicological interactions (physical, chemical, biological) with the human body. 3.2. Design relevant measures and strategies to promote limited exposure to chemical, physical, and biological agents. 3.3. Formulate policies that guide towards environmental health and safety and promote adherence stipulated ethical standards.
LO 4. Apply advanced risk assessment methodologies and management strategies to complex environmental health issues.	4.1. Categorize risk factors that could lead to noncompliance with established controls by different groups of workers and organisations.

	4.2. Evaluate critically and employ the Hierarchy of Control measures as the universal best approach to managing hazards. 4.3. Employ environmental and health paradigms and frameworks to mitigate the impacts posed by complex environmental health issues.
LO 5. Interpret environmental health data to identify and solve problems.	5.1. Undertake an in-depth analysis of environmental health information and data bases. 5.2. Ascertain the trends and patterns emanating from data used. 5.3. Interpret the findings to help in problem solving.
LO 6. Design appropriate intervention strategies for specific environmental health problems.	6.1. Employ legal frameworks and viable environmental health codes to yield reduced environmental and health problems. 6.2. Engage in capacity building (stakeholder consultation and engagement) and public education addressing environmental health and management of emanating problems. 6.3. Monitor and inspect implementation of intervention strategies aimed at managing environmental health problems.
LO 7. Conduct advanced scientific research to contribute to the body of knowledge about the field of environmental health.	7.1. Determine environmental health related problems affecting live hoods. 7.2. Formulate research objectives to carry out research. 7.3. Analyse and evaluate the results from independent research project. 7.4. Present the findings through a dissertation/ thesis and an oral presentation to examiners.

	7.5. Communicate the findings to appropriate stakeholders.

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SECTION C	***QUALIFICATION STRUCTURE***				
COMPONENT	***TITLE***	***Credits Per Relevant NCQF Level***			***Total*** ***(Per** Subject/ Course/ Module/ Units)*
		Level [8]	***Level [9]***	***Level [ ]***	
FUNDAMENTAL COMPONENT *Subjects/ Courses/ Modules/Units*	Research Methods and Biostatistics	20			20
CORE COMPONENT *Subjects/Courses/ Modules/Units*	Occupational Health and Safety	15			15
	Food Safety Management		20		20
	Environmental Protection and Health		20		20
	Communicable Diseases		15		15
	Epidemiological Modeling		20		20
	Housing and Health		15		15
	Environmental Engineering		20		20
	Dissertation		80		80

ELECTIVE/ OPTIONAL COMPONENT *Subjects/Courses/ Modules/Units*	**Choose 1**				
	Non - Communicable Diseases		15		15
	Climate and Environmental Change		15		15
	Health Systems Management		15		15

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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	***35***
LEVEL 9	***205***
TOTAL CREDITS	***240***

Rules of Combination:

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

Level 8 consists of 35 credits

Level 9 consists of 205 credits

Total Credits = 240

The credit combination for this qualification consists of 20 credits of fundamental component, 205 credits of core component and 15 credits of elective/optional component.

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ASSESSMENT ARRANGEMENTS

ASSESSMENT

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.

MODERATION

Internal Moderation Requirements

i. All assessment instruments should be internally moderated before administration

ii. All marked scripts should be moderated internally

iii. The preparation of the moderation should be accompanied by the Assessment Matrix.

External Moderation Requirements

External moderation is a final check, by external subject experts, that the examination and marking is at the right standard for the type and level (NCQF Level 9) of the qualification.

Assessment will be carried out by BQA registered assessors in line with BQA/ national policies.

MODERATION ARRANGEMENTS

Pre-moderation is done by relevant internal structures. Quality assurance of the assessment instruments is conducted prior to administration. Research proposal seminar are pre- and post-moderated internally. The thesis and thesis defence seminar will also be internally moderated.

Moderation will be carried out by BQA registered and accredited moderators.

External Moderation Arrangements:

The thesis and thesis defence seminar will be externally moderated

RECOGNITION OF PRIOR LEARNING

Recognition of Prior Learning (RPL) and Credit Accumulation Transfer (CAT) will be applicable for consideration for access and award of this qualification.

CREDIT ACCUMULATION AND TRANSFER

RECOGNITION OF PRIOR LEARNING

There shall be an award of the qualification using Institutional RPL Policy in line with the National RPL Policy.

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

Learning Pathways

Horizontal Articulation:

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

Vertical Articulation:

Student's graduating with this degree can easily articulate into the following:

- 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

Employment Pathways

- Environmental Health Inspector
- Health Inspector.

- Sustainability Specialists
- Environmental Auditors
- Researchers
- Government Advisors
- Health and Environment Auditors/advisors
- Environmental Control/Protection Managers

QUALIFICATION AWARD AND CERTIFICATION

Qualification award:

Candidates must acquire a minimum of 240 credits, to be awarded with a Master of Science in Environmental Health certificate.

Certification:

Candidates meeting the prescribed requirements will be awarded **Master of Science in Environmental Health certificate.**

REGIONAL AND INTERNATIONAL COMPARABILITY

The environment has always presented opportunities and challenges to humans; however, human activities have exposed the environment to actions that compromised its ability to provide for the humans and other living things. Human activities have had effect on the environment which in turn has influenced climatic conditions associated with health challenges. This degree, therefore seeks to equip learners with both the theoretical basis and the practical skills (industrially tuned, innovative, adaptive, impactful skill-aligned modules) for managing the environmental health risks that need to be critically investigated at workplaces, industries, food processing companies and beyond. Therefore, it prepares the graduates to address challenges (anthropogenic environmental and natural factors) presented by the interaction between humans and their environment and the overall safety. Overall, human capital with analytical, critical thinking, investigative and appropriate information dissemination is inevitable. In academic progression, this qualification may work as a baseline entry qualification into various fields for vertical progression towards graduate qualifications like Ph.D. in Environmental Health, Environmental Management, Environmental Science and Public Policy and health and any other relevant field as may be fit.

The proposed Master of Science in Environmental Health has been benchmarked against the following qualifications offered by various institutions.

Regional Qualification

Kenyatta University in Kenya offers a Master's of Science (Environmental Health) degree tagged at level 8 (according to Kenyan NCQF levels) in a period of one and half years, that contribute immensely on the advancement of knowledge and skills base enhancement through analytical and practical training on the generation of new scientific knowledge in the field of environmental health through empirical research to inform policy development and implementation in aspects of epidemiology, environmental toxicology and Health systems management. This qualification equips professionals in the areas of public health, environmental health and environmental science with professional research skills, thus bridging the gap between theory and practice of assessing, correcting, controlling and preventing those factors in the environment that can potentially affect adversely the health through planning and use of medical statistics. This qualification will produce professionals who will be engaged health inspections and investigation to ensure compliance to legislation and policies.

International Qualifications

Leeds Beckett University in England offers a 1-year Level 9 Msc. in Environmental Health which is accredited by the Chartered Institute of Environmental Health (CIEH) in the United Kingdom. The qualification is taught almost entirely by Environmental Health and Health and Safety Practitioners. This qualification equips leaners with knowledge and skills needed for a career as an environmental health practitioner by analysing the five main intervention areas including housing, food safety, occupational health and safety, environmental protection, and health. It emphasizes on the analysis, review, evaluation and critiquing various aspects of environment and health issues as well as the legal and technical frameworks for controlling exposure to environmental and health risks. The qualification also exposes learners to acoustics laboratory and food inspection facilities to put their expertise into practice; hence, have a chance to engage in simulated sessions, including mock kitchen inspections and staged courtroom trials to see how the law operates in environmental health cases.

Middlesex University, London offers a one-year Master of Science Degree in Environmental Health at level 9, worth 195 credits. The qualification exposes learners to impact of different factors on public health, the spread and control of diseases, health protection measures, and human physiology and toxicology. It also equips the scholars with skills to explore, critique and analyse key aspects on inequalities, housing and health, and legislation and ethics. The qualification also equips learners with investigative and inspectorate skills on food safety including ability to apprehend and inspect exposure to food-borne illnesses, methods of food storage and processing, legal requirements and food safety standards specified in the legal frameworks. Overall, the qualification ensures gain expertise in identification and assessment of health and safety risks to safeguard and improve health and safety in a variety of settings. Learners will be exposed to laboratory sessions, as well as lectures, workshops and seminars which will link theory and practice. Such seminal exposure provides an opportunity for discussion, research, practical exercises and examination of case studies, while in workshops learners learn how to use equipment and carry out practical inspections, audits and assessments.

The qualification is assessed and examined for benchmarking generally following similar structures, standards and covered relatively similar content, especially on key areas of environmental health (food safety, housing, environmental protection, occupational health, and public health issues. It is important to note that these institutions provide a qualification which aligns and matches with this proposed qualification, especially with core modules. This allows an international relevance, integration and articulation (vertically and horizontally) of graduates.

The comparability coverage ensured varied representativeness and diversity, ranging from Africa to Europe. Therefore, overall, this qualification generally compares with all the qualifications examined and the exit outcomes cover comparable scope and depth and are aligned to exit level descriptors typical of this level and type of qualification. However, what sets it apart from the ones highlighted above is the fact that it employs a multi-disciplinary approach (with natural sciences elementary modules) since their mutually inclusiveness is indispensable; thus, incorporation of health, safety, and environmental sustainability in ensuring occupational safety. Despite similarities, it is important to note that some qualification have slight differences to allow uniqueness and competitiveness of both the institution and the qualification.

REVIEW PERIOD
Every 5 years.

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