

QUALIFICATION SPECIFICATION										SECTION A			
QUALIFICATION DEVELOPER			Mega Size College Boitekanelo College BA ISAGO University Botho University Gaborone University College of Law and Professional Studies										
TITLE		Bachelor of Science in Occupational Health, Safety and Environmental Management						NCQF LEVEL		7			
FIELD		Health & Social Services		SUB-FIELD		Occupational Health, Safety and Environmental Management							
New qualification		✓		Review of existing qualification									
SUB-FRAMEWORK		General Education				TVET				Higher Education		✓	
QUALIFICATION TYPE		Certificate				Diploma				Bachelor		✓	
		Bachelor Honours				Master				Doctor			
CREDIT VALUE									515				
RATIONALE AND PURPOSE OF THE QUALIFICATION													
<p>Research conducted by Human Resource Development Council (HRDC) (December, 2016) for the Top 20 Occupations in High Demand indicated that Botswana is currently experiencing a shortage of Health, Safety and Environment officers in the industry (HRDC report “Top occupations in High Demand”- ,December,2016). The skill demand in this area is also supported by the HRDC Labour Market Observatory which identifies Health Sciences and Social Services as critical to the economy of Botswana.</p> <p>The Government of Botswana has increased its commitment by aligning Occupational Health & Safety Development with policies such as the Education and Training Sector Strategic Plan (ETSSP2015- 2020), National Development Plan 11, Vision 2036, National Human Resource Development Strategy (2009 - 2022), and the Sustainable Development Goals (2016-2030). All these policies recognize Occupational Health & Safety development and education as the foundation for all learning and development of the human capital. It also supports the skills training and development component of the Life Cycle Model of the NHRD Strategy (2009). Botswana Vision 2036 recognizes education and skills development as the basis for human resource development. HRDC (2016), listed Occupational health and Safety practitioners</p>													

among the top occupations in demand especially in the mining sector. Furthermore, a needs assessment survey was conducted to identify the missing gaps of health, safety and environment in the labour market, which confirmed the need for the qualification.

Purpose

The purpose of this qualification is to produce graduates with competencies in safety, health and environment. The qualification aims at those who wish to pursue a career in the field of Occupational Safety, Health and Environment. The qualification will not only provide them with the basics of safety and health and environment issues, but will also broaden their knowledge and equip them with up to date skills and knowledge that are required to perform their day to day duties. The qualification will also enable them to better cope with recent changes that have taken place in the field of occupational health, safety & environment. The qualification will afford candidates the opportunity to analyze situations with respect to safety, health and environmental issues and thus take appropriate actions. The qualification will also provide them with a strong know-how as to the legal aspects of safety, health and environment in Botswana.

The qualification is designed to meet the professional development needs of Occupational health, safety and environment professionals by providing the latest occupational, health, safety and environment knowledge, techniques, and skills with an understanding that occupational safety and health is an integral part of doing business and undertaking industrial activity in the global context and competitive world of today. The qualification will develop the skills and knowledge needed in the field of safety and health and environmental management that will allow them to develop, implement, and maintain an effective safety and health program in today's business and bottom -line oriented companies

ENTRY REQUIREMENTS (including access and inclusion)

The minimum entry requirements:

- a) Applicants must have attained NCQF level 4, Certificate IV (BGCSE) or its equivalent with at least 5 passes including a pass in English language and at least a credit in Mathematics and Science subjects.
- b) NCQF Level 5, Certificate V in TVET in a related field of study
- c) Recognition of Prior Learning will be applicable for entry. It will apply in accordance with relevant policies and procedures. An applicant who falls outside of the formal qualifications system but who can demonstrate (through the production of substantial and satisfactory evidence) experiential or work-based

learning or a non-formal qualification (or a combination) which has taken the learner to a level equivalent to a qualification specified under the heading: Learning Assumed to be in Place, may be considered for admission and/or for the recognition of prior learning for the achievement of the qualification in part or in full. An applicant who, after such assessment, is deemed to have sufficient potential but is in need of further academic development, must be directed to other suitable learning programs prior to admission or to parallel programs after admission

d) Mature entry will be provided for.

e) **CATS**

Prior accredited learning of a learner at tertiary or college level in relevant domains which constitute credit-bearing units or modules will be recognized if evidence can be produced that shows that the learner has achieved the outcomes and associated assessment criteria specified for the qualification and, if appropriate, allow the recognition of prior learning for the achievement of the qualification in part or in full.

QUALIFICATION SPECIFICATION	
SECTION B	
GRADUATE PROFILE (LEARNING OUTCOMES)	ASSESSMENT CRITERIA
1. Demonstrate knowledge and understanding of concepts of Occupational Health and Safety	1.1 Demonstrate understanding of key principles and Background of OHS 1.2 Outline the benefits of OHS. 1.3 Discuss the integration of management systems used in OHS. 1.4 Critique the status of Occupational Health and Safety in Botswana.
2. Conduct Risk Assessment	2.1 Identify different types of risk in the workplace 2.2 Evaluate the risks for a safe and healthy environment. 2.3 Implement and monitor effectiveness of control measures. 2.4 Review and update risk assessment.
3. Conduct Accident / Incident investigations	3.1 Develop an accident/incident investigation instrument. 3.2 Collect evidence of the accident/incident scene to conduct accident/incident investigation. 3.3 Report on the accident/incident scene. 3.4 Design accident/incident prevention tools, strategies and measures
4. Provide leadership and training support to the organization and other practitioners to promote a health and safety culture.	4.1 Develop a Health and Safety Policy for the organization. 4.2 Train fellow employees on Health and Safety matters. 4.3 Organize health and safety awareness activities and days. 4.4 Design promotional and developmental health, safety and environmental awareness materials and strategies
5. Contribute to the advancement of the OHS profession.	5.1 Analyze a given case study. 5.2 Analyze the situation presented by the case study. 5.3 Make recommendations informing best practices within the organization.

<p>6 Critically analyse Safety, Health and Environmental risks at the workplace and external environments.</p>	<p>6.1 Use relevant theories and concepts to identify key cause of workplace safety, health and environmental hazards.</p> <p>6.2 Develop an accident/incident investigation instrument.</p> <p>6.3 Analyse environmental risks influencing occupational health and safety.</p> <p>6.4 Organize health and safety awareness activities and days.</p> <p>6.5 Design promotional Safety, health and environmental awareness materials.</p>
<p>7 Develop practical, sustainable, cost-effective and environmentally friendly solutions and alternatives in addressing challenges on safety, health and environmental management at the workplace and beyond.</p>	<p>7.1 Design environmental management tools to monitor sustainable use of the environment and promote safety at the workplace and beyond.</p> <p>7.2 Review alternative solutions that promote safety, health and environmental sustainability.</p> <p>7.3 Apply the relevant legal and regulatory processes to achieve safety and environmental sustainability at local, regional and international levels.</p> <p>7.4 Develop operational and practical strategies that promote safe, healthy and sustainable environments.</p> <p>7.5 Engage in capacity building (stakeholder consultation and engagement) and public education addressing safety, health and environmental management.</p>

<p>8 Engage in academic debates and research forums on issues addressing Safety, Health and Environmental Management.</p>	<p>8.1 Investigate the ecosystem's exposure to chemical, physical and biological agents</p> <p>8.2 Employ environmental paradigms and frameworks to mitigate the impacts posed by environmental stressors</p> <p>8.3 Participate in academic research to contribute to the body of knowledge about the field of occupational health, safety and environmental management.</p> <p>8.4 Identify problems related to safety, health and environment.</p> <p>8.5 Formulate hypothesis of possible causes of safety, health and environmental problems.</p> <p>8.6 Analyse data on the identified problem.</p> <p>8.7 Recommend for actions from the identified problems.</p> <p>8.8 Disseminate the findings that would inform decision making and policy formulation and revision.</p>
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QUALIFICATION STRUCTURE			
SECTION C			
FUNDAMENTAL COMPONENT Subjects / Units / Modules /Courses	Title	Level	Credits
	Communication and Study Skills	5	10
	Introduction to Health Economics	5	10
	Information Communication Technology (ICT)	5	10
	Chemistry	5	10
	Physics	5	10
	Anatomy & Physiology	5	10
	Mathematics	5	10
	Essentials of Entrepreneurship	6	10
CORE COMPONENT Subjects / Units / Modules /Courses	Introduction to Health and Safety Management	5	10
	Accident Prevention Investigation	6	10
	Measuring and Reviewing Health and Safety Performance	6	10
	Occupational Risk Management	7	12
	Health & Safety Management	7	12
	Managing Occupational Health	7	12
	Occupational Toxicology	7	12
	Epidemiology	7	12
	Environmental Management	7	12
	Emergency Preparedness and Disaster Management	7	12
	Organizational Behaviour	7	10
	Biostatistics	7	12
	Quality Management	7	10
	Ergonomics	7	12
	Occupational Diseases	7	12
	Environmental Impact Assessment	7	12
	Labour Law	7	12
	Safety and Health legislation	7	24

	Waste Management	7	12
	Occupational Hygiene	7	15
	Global Health	7	10
	Environmental Sustainability	7	12
	Occupational Records Management in the Workplace	7	12
	Chemical Safety Management	7	12
	Safety Management and the Built Environment	7	12
	Counseling in the Workplace	7	12
	Environmental Toxicology	7	12
	Environmental Policy	7	12
	Research Methods	7	12
	Research Project	7	20
	Industrial Attachment	7	40
ELECTIVE/OPTIONAL COMPONENT Choose 2 Elective Subjects / Units / Modules /Courses	Security Management	7	12
	Corporate Social Responsibility	7	12
	Employee Relations	7	12
	Health and Safety in Transport	7	12
	Building Maintenance	7	12
	Mine Safety	7	12

Rules of combinations, Credit distribution(when applicable):

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Level 5 consists of 80 Credits

Level 6 consists of 30 Credits

Level 7 consists of 381 Credits

Optional -24 Credits

Total Credits = 515

The credit combination for this qualification is from 80 fundamental components, 411 core components and the remaining 24 is from elective components where candidates will choose two.

Core Modules	Prerequisite
Research Methods	Biostatistics & epidemiology
Research Project	Research Methods
Accident prevention investigation	Introduction of health and safety management
Occupational Risk Management	Introduction of health and safety management
Environmental Impact Assessment	Environmental Management
Health & Safety management	Introduction of health and safety management
Research Project	Research Proposal

ASSESSMENT AND MODERATION ARRANGEMENTS

Assessment strategies, requirements and weightings

All assessments, formative and summative, leading/contributing to the award of credits or a qualification should be based on learning outcomes and/or sub-outcomes.

Formative assessment

Formative assessment or continuous assessment contributing towards the award of credits should be based on course outcomes.

The assessment for this qualification will be through different relevant and appropriate methods, as well as suitable for the learning outcomes of the qualification.

The contribution of formative assessment to the final grade is 50%.

Summative assessment

Candidates will undergo assessment including written final examination for each module which contributes 50 % of the final mark for that module.

Internal moderation requirements

Both internal and external examiners are appointed by the head of institution upon recommendation by the Academic Board. Once the internal examiners have assessed the examinations of the learner, the external examiners will undertake a similar exercise.

For every module of this qualification there will be at least one external examiner or second examiner who will be from within the institution or a related organization, with suitable qualifications and job related area experience.

External moderation requirements

Moderation is conducted internally through a system of second examiners. All exit level modules will have in addition an external examiner from another higher education institution.

CRITERIA FOR SELECTION OF ASSESSORS AND MODERATORS

The following criteria are specified for assessors concerning the core aspects of the qualification:

Qualification(s) required

- Assessors must be in possession of a relevant qualification at NCQF Level 8 or above plus evidence of competence in assessment and moderation

Professional work experience required

- At least two years of academic experience plus work experience in a relevant field.

Professional registration and accreditation

Assessors and moderators must have valid registration and accreditation with all or some of the relevant bodies such as:

- Botswana Qualifications Authority (BQA)

RECOGNITION OF PRIOR LEARNING (if applicable)

Credit Accumulation and Transfer (CATS)

Prior accredited learning of a learner at tertiary or college level in relevant domains which constitute credit-bearing units or modules will be recognized if evidence can be produced that shows that the learner has achieved, at a satisfactory level, the outcomes and associated assessment criteria specified for the qualification and, if appropriate, allow the recognition of prior learning for the achievement of the qualification in part or in full.

Recognition of Prior Learning (RPL)

RPL will be applied for this qualification in accordance with relevant national and ETP focused RPL policies and procedures. An applicant who falls outside of the formal qualifications system, but who can demonstrate, through production of substantial and satisfactory evidence, experiential or work-based learning, or a non-formal qualification (or a combination) which has taken the learner to a level equivalent to a qualification specified under the heading: Learning Assumed to be in Place, may be considered for the recognition of prior learning for the achievement of the qualification in part or in full. An applicant who, after such assessment, is deemed to have sufficient potential, but is in need of further development, must be directed to other suitable learning outcomes prior to admission or to parallel qualifications after admission.

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

Learning Pathways

Systemic articulation is possible horizontally and vertically with qualifications offered by other institutions, provided students meet the minimum admission requirements. The possibilities are:

Horizontal Articulation:

- BSc Occupational Health, and Safety Degree, at NCQF Level 7.
- BSc in Environment Management Degree, at NCQF Level 7
- BSc in Occupational Hygiene Degree, at NCQF Level 7
- Bachelor of Science in Occupational Safety and Environment at NCQF Level 7
- Bachelors of Science in Occupational Health and Safety Science at NCQF Level 7

Vertical Articulation (qualifications to which the holder may progress to):

Graduates may progress to higher level qualifications such as:

- Post Graduate Diploma in BSc Occupational Health, - NCQF level 8
- BSc Honours Degree in Occupational Health, and Safety - NCQF Level 8
- BSc Honours Degree in Occupational Health, Safety and Environment- NCQF level 8;
- MSc in Occupational Health, Safety and Environment- NCQF level 9;
- MSc in Environment Management- NCQF level 9
- MSc in Occupational Health and Safety- NCQF level 9

Employment Pathways

- Corporate Health and Safety Managers
- Loss Control Officers
- Environmental Health and Safety Specialists
- SHE policy Analysts
- OSHA Inspector
- Safety Specialist
- Safety Inspector
- Compliance Officer
- Safety Manager
- Safety Administrator
- Industrial and Environmental Assessors
- Safety Officer

QUALIFICATION AWARD AND CERTIFICATION

Minimum standards of achievement for the award of the qualification

A candidate is required to achieve the stipulated **515** total credits inclusive of the fundamental, core and elective components, to be awarded a BSc in Occupational Health, Safety and Environmental Management covered a period of four-years.

Certification

Candidates meeting prescribed requirements will be awarded the qualification in accordance with standards prescribed for the award of the qualification and applicable policies. Learner must pass all modules prescribed in the qualification and fulfill all the requirements of the qualification to be awarded a BSc Degree in Occupational Health, Safety and Environmental management.

REGIONAL AND INTERNATIONAL COMPARABILITY

Benchmarking has been done against qualifications offered by reputable entities within the region and beyond to appreciate what is typical of this level and type of qualification out there, in relation to graduate profiling, scope and depth of content, to ascertain regional and international comparability and articulation of the proposed qualification. The outcomes of this process are highlighted.

This qualification was compared with the following:

- Columbia Southern University (Colombia) offering a four year Bachelor of Science Occupational Safety and Health
- Queensland University (Australia) offering a four year Bachelors of Science in Occupational Health and Safety Science at AQF Level 7
- Institute of Development Management (Swaziland) offering a four year Bachelors of Science in Occupational Health and Safety, at NQCF level 7

The qualifications examined generally follow similar structures and standards, although there are insignificant differences in that their competencies are more general rather than specific.

The Occupational Health, Safety and Environment qualification is expected to meet standards of quality comparable with international benchmarks established for professional first degrees Occupational Health, Safety and Environment. As noted above, the BSc Degree in Occupational Health, Safety and Environment qualification meets standards of quality comparable with locally, regionally and international benchmarks established for professional first degrees in the occupational health and safety professions. It can be noted as well that this qualification generally compares well with all the qualifications studied since the exit outcomes cover similar scope and depth, and are aligned to exit-level descriptors typical of this level and type of qualification, as done locally, regionally and internationally. However, what sets it apart from the qualifications examined is that there is provision for research. It also incorporates work related attachment, which exposes learners to the real world of work, which they will encounter upon successfully completing the qualification.

REVIEW PERIOD

This qualification will be reviewed after five (5) years from the date of first enrolment.