

79807 Further Education and Training Certificate: Occupational Hygiene and Safety 145 Credits NQF Level 4

PURPOSE AND RATIONALE OF THE QUALIFICATION

Learners accredited with this qualification will be able to identify, evaluate, advise and report on occupational hygiene and safety factors, in occupational environments, in order to maintain a high level of health and safety for workers in such environments.

Learners credited with this qualification are capable of:

- Communicating effectively in a variety of ways.
- Using mathematics to solve problems in real life and work-related situations.
- Identifying problems and initiating actions regarding workplace hazards and risks.
- Working effectively with others as a member of a team, group, organisation or community to attain operational competence in occupational safety and hygiene.

Rationale:

Learners credited with this qualification are likely to be working in the occupational safety, hygiene and environmental disciplines. Learners are required to integrate practical skills with essential knowledge, to be able to take proactive and reactive measures in order to maintain a healthy and safe environment.

In South Africa and internationally, the social and economic impact of occupational safety, hygiene and health, is significant. Direct costs that result from poor workplace safety, hygiene and health, include human and economic costs. Indirect costs are also incurred and may include poor morale, poor productivity and downtime. Improved workplace safety, hygiene and health, could influence the South African economy in direct costs alone to the value of millions of Rands each year. This qualification aims to meet the demand for learners that can facilitate a safe, healthy and productive occupational environment.

There is a critical need in the industry to recognise learner competence regarding essential operations associated with a healthy, safe and productive working environment. This qualification is the next step in a career path in one of the areas of specialisation in Occupational Safety and Hygiene and is generic enough to allow maximum mobility within the field of application.

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

Learners embarking on learning for this qualification should be competent in the following:

- Communication at NQF Level 3.
- Mathematical literacy at NQF Level 3.

Recognition of prior learning:

This qualification can be achieved wholly, or in part, through recognition of prior learning. Evidence of competency can be presented in a variety of forms, including previous international or local qualifications, reports, testimonials, mentoring, functions performed, portfolios, work records and performance records. Learners who have met the requirements of any unit standard that forms part of this qualification may apply for recognition of prior learning to the relevant Education and Training Quality Assurance body (ETQA) or ETQA which has a Memorandum of Understanding in place with the relevant ETQA.

RECOGNISE PREVIOUS LEARNING?

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QUALIFICATION RULES

The Qualification consists of a Fundamental, a Core and an Elective Component.

To be awarded the Qualification, learners are required to obtain a minimum of 145 credits as detailed below.

Fundamental Component:

The Fundamental Component consists of Unit Standards in:

- Mathematical Literacy at Level 4 to the value of 16 credits.
- Communication at Level 4 in a First South African Language to the value of 20 credits.
- Communication in a Second South African Language at Level 3 to the value of 20 credits.

It is compulsory therefore for learners to do Communication in two different South African languages, one at Level 4 and the other at Level 3.

All Unit Standards in the Fundamental Component are compulsory.

Core Component:

The Core Component consists of Unit Standards to the value of 75 credits all of which are compulsory.

Elective Component:

The Elective Component consists of Unit Standards to the value of 34 credits. Learners are to choose Unit Standards to the minimum of 14 credits.

Mining and Minerals Specialisation (Learning Programme ID 79827):

- ID 120343: Determine radon and thoron progeny concentrations using the Ogden method, Level 4, 4 credits.
- ID 120350: Determine the integrated beta/gamma radiation dose using a Dosimeter (TLD), Level 4, 2 credits.
- ID 120358: Determine the integrated radon gas dose, Level 4, 3 credits.
- ID 120367: Measure radon progeny using the batch method, Level 4, 4 credits.
- ID 13917: Indicate the role of a team leader ensuring that a team meets an organisation's standards, Level 3, 6 credits.
- ID 9533: Use communication skills to handle and resolve conflict in the workplace, Level 3, 3 credits.

EXIT LEVEL OUTCOMES

1. Communicate effectively in a variety of ways.
2. Use mathematics to solve problems in real life and work-related situations.
3. Identify problems and initiate corrective actions regarding workplace hazards and risks.
4. Work effectively with others as a member of a team, group, organisation or community to attain operational competence in occupational safety and hygiene.

Critical cross-field outcomes:

This qualification addresses the following critical cross-field outcomes, as detailed in the associated unit standards:

- Identifying and solving problems in which responses indicate that responsible decisions using critical and creative thinking have been made.
> This critical cross-field outcome is addressed primarily through ELO1 and ELO4.
- Working effectively with others as a member of a team, group, organisation or community.
> This critical cross-field outcome is addressed primarily through ELO4.
- Organising and managing oneself and one's activities responsibly and effectively.
> This critical cross-field outcome is addressed primarily through ELO1, and ELO4.
- Collecting, analysing, organising and critically evaluating information.
> This critical cross-field outcome is addressed primarily through ELO2, ELO3 and ELO4.
- Communicating effectively using visual, mathematical and/or language skills in the modes of oral/written persuasion.
> This critical cross-field outcome is addressed primarily through ELO1.
- Using science and technology effectively and critically, showing responsibility towards the environment and health of others.
> This critical cross-field outcome is addressed primarily through ELO2, ELO3 and ELO4.
- Demonstrating an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation.
> This critical cross-field outcome is addressed primarily through ELO1, ELO2, ELO3 and ELO4.

Learning programmes directed towards this qualification will also contribute to the full personal development of each learner and the social and economic development of the society at large, by making individuals aware of the importance of:

- Reflecting on and exploring a variety of strategies to learn more effectively.
- Participating as responsible citizens in the life of local, national and global communities.
- Being culturally and aesthetically sensitive across a range of social contexts.
- Exploring education and career opportunities; and developing entrepreneurial opportunities.

ASSOCIATED ASSESSMENT CRITERIA

1.
 - Engage in sustained oral communication and evaluate spoken text.
 - Read, analyse and respond to a variety of texts.
 - Write for a wide range of contexts.
 - Use language and communication in occupational learning programmes.
2.
 - Mathematics is used to gather and monitor the information generated through workplace procedures.
 - Knowledge of statistics is used to effectively communicate findings in life-related problems.
 - Physical quantities are measured, estimated and calculated and possible problems anticipated and resolved according to workplace procedures.
3.
 - Workplace hazards and risks are identified and addressed according to specified procedures and requirements.
 - Workplace hazards and risks are recorded, dealt with and reported according to specified procedures.
 - Personal protective and monitoring equipment is used as specified.
4.
 - Principles of hygiene, safety and environmental management are applied to ensure a safe working environment.
 - Inspecting, monitoring and reporting are carried out regularly and accurately and meet the specified requirements.
 - Work is carried out harmoniously and conflict situations are handled according to prescribed workplace procedures.

Integrated Assessment:

Integrated assessment is carried out as a series of structured, evidence gathering processes throughout the period of learning. The learner's performance is assessed using a range of methods and culminates in a final or summative assessment. Methods include, but are not limited to:

- Written and oral tests.
- Simulation.
- Peer group presentations.
- Written reports and work plans.

INTERNATIONAL COMPARABILITY

A search was done to compare this qualification and its associated unit standards with those of other countries. After an extensive search it became clear that Occupational Health and Safety training in the SADC region is almost non-existent as is evident from a Southern African Meeting on The Education and Training of Occupational Health and Safety Professionals, Johannesburg, South Africa, 22-24 October 1997. (Source: <http://www.asosh.org/SADC/training.htm> accessed 5 June 2005).

A follow-up meeting held in Zimbabwe in March 2001 identified the following areas of collaboration:

- Human resource development focused on capacity building.
- National policies, programmes and legislation.
- Information, research and awareness raising.
- Promotion of occupational health and safety in particularly hazardous occupations, vulnerable groups (including informal sector workers and children) and in newly transferred technologies (Source: http://www.who.int/occupational_health/regions/end/oehafroharare.pdf accessed 10 June 2005).

A search could not pick up any information on any later developments in the OHS sector in the region taking place after the quoted conferences.

A network of occupational health institutes assigned as WHO collaborating centres published a "global strategy for occupational health for all" in 1995 with 10 priority objectives, later adopted by the World Health Assembly. The most notable of these objectives for the purposes of this is:

"Development of human resources for occupational health:

- There is a universal shortage of both expert resources and training in developing and newly industrialized countries in the South. This is due to three main reasons:
 - > Lack of effective legislation and lack of requests from authorities and employers make the employment opportunities for such experts minimal.
 - > In the absence of requests, the vocational training institutions and universities have not organized and developed curricula for the training of experts in occupational health.
 - > In some instances, where training is available, it is oriented to clinical occupational medicine only which, though important, does not give a full response to the needs for expertise in a preventive workplace-oriented occupational health service."

(Source: Occupational Safety and Health in Developing Countries, Review of strategies, case studies and a bibliography, Christer Hogstedt and Bodhi Pieris <http://www.niwl.se/arb/> accessed 12 June 2005)

It must be remembered that the WHO sees occupational safety as part of occupational health. From the case studies in the report it also becomes apparent that no formal educational structure or learning on occupational health and safety (OHS) exists in countries like Thailand, Malaysia, South East Asia, Central America, India, Zimbabwe and Costa Rica.

A conclusion can thus be drawn that South Africa is a leader in developing occupational health and safety qualifications in developing countries and can in this instance be compared to developed countries that have established a qualifications framework in a national as well as functional context. Such countries are most notably Australia, New Zealand and the United Kingdom.

South Africa has also taken the lead in dissemination of OHS knowledge and expertise through International conferences and seminars like NOSHCON, taking place annually in South Africa.

Our mining community has taken the lead in implementing legislation that would improve the education and training levels of all workers not only in general but in OHS specifically through the activities of the Mining Qualifications Authority (MQA). Most major mine houses are already implementing training programmes based on qualifications and unit standards developed by the MQA.

Although qualifications on frameworks in New Zealand, United Kingdom, and Australia, do not mirror our qualification design, the design of the qualification addresses equivalent areas of competence.

On the Australian framework, occupational health, safety and environment qualifications fall within the Vocational Education and Training sector, which recognises skills and knowledge that meet nationally endorsed industry/enterprise competency standards as agreed for those qualifications by the relevant industry, enterprise, community or professional group. The available qualifications also include literacy and numeracy, communication, working in teams (critical cross field outcome on the South African NQF), workplace technology, and industry specific competencies. Various programmes are available, including a Certificate III in Occupational Health and Safety, Certificate IV in Auditing Occupational Health and Safety Systems, Certificate IV in Occupational Health and Safety, and a Diploma of Occupational Health and Safety. Certificate III (equivalent to grade 12, South African NQF Level 4).

In the United Kingdom, an equivalent for the South African NQF Level 4 qualification does exist. A National Vocational Qualification Occupational Health and Safety at Level 3 (Grade 12 or NQF Level 4 equivalent in South Africa), is available. Other than these, health, safety and environmental issues are integrated within most other relevant qualifications, such as general science (equivalent to NQF Level 1 in South Africa), design, and engineering. In Scotland, two Vocational qualifications are provided, namely, Occupational Health and Safety Practice at Level 3, and Occupational Health and Safety Practice at Level 4.

The New Zealand NQF places occupational health and safety within the fields of Health, Manufacturing (Dairy Workplace Health and Safety) and Planning and Construction (Construction Health and Safety and Injury Prevention). The South African equivalent is in the field of Health, specifically Occupational Health and Safety. The South African NQF Level 4 is the equivalent of the New Zealand NQF Level 3. Two qualifications are registered in the field of Health, on the New Zealand NQF, namely, a National Certificate in Occupational Health and Safety (Co-ordination) (Level 4), and a National Certificate in Occupational Health and Safety (Workplace Safety) (Level 3).

Unit standards on the New Zealand NQF mostly start at the equivalent of our level four qualification, and include, but is not restricted to, the following:

Title, level and credits:

- Protect health and safety in a workplace. Level: 1. Credits:1.
- Apply safe work practices in the workplace. Level: 2. Credits: 4.
- Undertake job safety analysis. Level: 2. Credits: 4.
- Apply for, accept, and carry out work according to a work permit in the workplace. Level: 3. Credits: 4.
- Apply hazard identification and risk assessment procedures in the workplace. Level: 3. Credits: 4
- Demonstrate knowledge of electrical safety in the workplace. Level: 3. Credits: 5.
- Demonstrate knowledge of fire and emergency warden duties in the workplace. Level: 3. Credits: 3.
- Demonstrate knowledge of hazards associated with confined space. Level: 3. Credits: 4.
- Demonstrate knowledge of hearing conservation in the workplace. Level: 3. Credits: 4.
- Explain safe work practices for working at heights. Level: 3. Credits: 3.
- Identify the causes of back injury and methods to prevent back injuries in the workplace. Level: 3. Credits: 4.
- Demonstrate knowledge of safety observer responsibilities in the workplace. Level: 3. Credits: 8.
- Issue work site specific work permits. Level: 3. Credits: 6.
- Use a forklift mounted safety platform in the workplace. Level: 3. Credits: 5.
- Implement workplace health and safety management requirements. Level: 4. Credits: 25.
- Assist in evaluating occupational health and safety standards and practice. Level: 4. Credits: 15.
- Assist in hazard identification and control for occupational health and safety practice. Level: 4. Credits: 10.
- Demonstrate knowledge of health and safety management requirements for contractors working on site. Level: 4. Credits: 8.
- Explain the establishment and operation of a workplace health and safety committee. Level: 4. Credits: 5.
- Explain the requirements of the health and safety in employment act (HSE) 1992. Level: 4. Credits: 2.
- Maintain standards of practice in an occupational health and safety practice. Level: 5. Credits: 5.
- Develop and implement workplace occupational health and safety policy and standards. Level: 5. Credits: 1.0
- Manage workplace management health and safety. Level: 5. Credits: 10.

ARTICULATION OPTIONS

This qualification can provide access to higher-level qualifications in the discipline of Occupational Hygiene and Safety, and in various industrial sectors and related sub-fields as most qualifications on the NQF require competence regarding this discipline. Thus, an access point is provided to, for example, qualifications in the Physical Planning and Construction, Manufacturing, Engineering and Technology and Business, Commerce and Management organising fields.

The qualification articulates horizontally with all NQF 4 registered qualifications and vertically with NQF Levels 3 and 5