

79806 National Certificate: Occupational Hygiene and Safety

144 Credits NQF Level 3

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

This qualification enables learners to identify, evaluate, advise and report on occupational safety, hygiene and environmental factors, in occupational environments, which may have a detrimental effect on the health and safety of workers in such environments. The qualification is designed to be flexible and accessible.

Learners credited with this qualification are capable of:

Performing essential inspections, measurements and evaluations to ensure health and safety in occupational environments.

Communicating effectively using visual, mathematical and language skills in the modes of oral and written presentation.

Solving mathematical problems related to finances, patterns, statistics, shape and motion using numbers and number systems.

Describing concepts and principles in science and the natural environment.

Operating personal computers and computer systems.

Collecting, analysing, organising and critically evaluating information about occupational hygiene, safety and environmental conditions and elements using science and technology effectively and critically to measure them.

Identifying and solving problems to make responsible decisions regarding workplace hazards and risks.

Ensuring a safe and healthy workplace environment and conduct.

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, health, and environment is great. Direct costs that result from poor workplace safety, hygiene, health, and environments include both human and economic costs. Indirect costs are also incurred and include aspects such as poor morale, poor productivity, and downtime. Improved workplace safety, hygiene, health, and environments 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 are able to 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. It is generic enough to allow maximum mobility within the field of application. Skills, knowledge, values and attitudes (competencies) reflected in the qualification are building blocks towards a level 4 qualification.

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

Communications NQF Level 2.

Mathematical Literacy NQF Level 2.

Independent learning.

In addition, competence in the following unit standards:

Demonstrate an understanding of the concept of science: SAQA ID 7507

Demonstrate an understanding of fundamental concepts and principles in natural science: SAQA ID 14110

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 with the relevant ETQA.

RECOGNISE PREVIOUS LEARNING?

Y

QUALIFICATION RULES

All Fundamental component unit standards are compulsory (41 credits must be attained):

20 credits for Communication and Language

16 credits for Mathematical Literacy

5 credits for Computer Literacy

All Core component unit standards are compulsory (97 credits must be attained).

The Elective Component consists of a number of unit standards from which at least 6 credits must be attained.

Mining and Minerals Specialisation (Learning Programme ID 79826):

ID 242821: Identify responsibilities of a team leader in ensuring that organisational standards are met, Level 4, 6 credits.

ID 117877: Perform one-to-one training on the job, Level 3, 4 credits.

ID 9533: Use communication skills to handle and resolve conflict in the workplace, Level 3, 3 credits.

ID 7465: Collect and use data to establish complex statistical and probability models and solve related problems, Level 4, 5 credits.

ID 120323: Analyse a mixture of coal dust and stone dust sample by means of colorimetric method and recommend appropriate remedial action, Level 2, 2 credits.
ID 115103: Sample and evaluate a mixture of coal dust and stone dust, Level 2, 3 credits.
ID 120351: Collect and prepare water sample for radionuclide analysis, Level 3, 3 credits.
ID 120318: Determine the long-lived alpha activity on a dust-laden filter with an alpha counter, Level 3, 2 credits.
ID 120346: Determine radioactive contamination by means of a surface contamination monitor, Level 4, 2 credits.
ID 120356: Measure low-level gamma radiation by means of a portable dosimeter, Level 4, 2 credits.
ID 115089: Measure virgin rock temperature, Level 2, 2 credits.

EXIT LEVEL OUTCOMES

1. Communicate effectively using visual, mathematical and language skills in the modes of oral and written presentation.
2. Solve mathematical problems related to finances, patterns, statistics, shape and motion using numbers and number systems.
3. Use a computer and computer systems.
4. Use science and technology effectively to collect, analyse, organise and critically evaluate information about occupational hygiene, safety and workplace environmental conditions.
5. Identify and solve problems to make responsible decisions regarding workplace hazards and risks.

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 ELO5.

Working effectively with others as a member of a team, group, organisation or community.

This critical cross-field outcome is addressed primarily through ELO1 and ELO5.

Organising and managing oneself and one's activities responsibly and effectively.

This critical cross-field outcome is addressed primarily through ELO5.

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 and ELO3.

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 ELO4 and ELO5.

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, ELO4 and ELO5.

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:

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

ASSOCIATED ASSESSMENT CRITERIA

1. Information from texts such as standing instructions, visual information and other responses is accessed and used appropriately and effectively.
Oral communication is maintained and adapted as required to promote effective interaction in the work context.
Written communication is clear and unambiguous and at an appropriate level for the designated target audience.
2. Related problems are solved by using basic mathematical functions.
Life and work-related problems are investigated using relevant statistics.
3. Computers and relevant software are used effectively for specified contexts.
Use of personal computer systems meet security requirements.
4. Occupational hygiene, safety and environmental conditions and elements are described according to specified requirements.
Relevant methods of measurement are identified and described according to specified requirements.
Instruments and techniques selected for measurement are appropriate for specified contexts and purposes.
Relevant legal and other context-specific requirements are adhered to.
5. Occupational safety, hygiene and environment principles are described.
Workplace hazards and risks are identified, addressed, recorded and reported according to specified procedures and requirements.
Appropriate corrective and/or mitigation measures are implemented according to standard operating procedures.
Personal protective and monitoring equipment is used as specified.

Integrated Assessment:

Assessment is not a single event, but rather a structured process of gathering evidence and making judgements of the learner's performance in relation to the qualification. A range of methods may be used for formative and summative assessment.

These may include:

Written and oral tests.

Simulation sessions.

Peer group presentations.

Written reports and/or work plans.

Assessment should take place within the protocols and procedures of the place of learning and according to the specifications indicated in the unit standard.

INTERNATIONAL COMPARABILITY

This qualification and its component unit standards has been compared 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 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 is the development of human resources for occupational health and is explained by saying there is a universal shortage of both expert resources and training in developing and newly industrialized countries in the South. (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.

This qualification does not exist at the equivalent level on frameworks in New Zealand, United Kingdom, and Australia. Qualifications in OHS in those countries all start at the next higher level.

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. A Certificate III is equivalent to grade 12, South African NQF Level 4.

In the United Kingdom, no equivalent for the South African NQF Level 3 qualification exists. A Foundation certificate in Health and safety in a workplace is available, within the Hospitality sector. In addition, National Vocational Qualifications exist for Security, Safety and Loss Prevention at Level 2, Occupational Health and Safety at Level 3 (Grade 12 or NQF Level 4 equivalent in South Africa), Occupational Health and Safety Practice at Levels 4 and 5 and Health and Safety Regulation at Level 5. 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 are mostly at a higher level than our level three qualification but start at the equivalent of our level four qualification, and include, but are not restricted to, the following:

Title, level, credits:

Protect health and safety in a workplace,1,1

Apply safe work practices in the workplace,2,4

Undertake job safety analysis,2,4

Apply for, accept, and carry out work according to a work permit in the workplace,3,4

Apply hazard identification and risk assessment procedures in the workplace,3,4

Demonstrate knowledge of electrical safety in the workplace,3,5

Demonstrate knowledge of fire and emergency warden duties in the workplace,3,3

Demonstrate knowledge of hazards associated with confined space,3,4

Demonstrate knowledge of hearing conservation in the workplace,3,4

Explain safe work practices for working at heights,3,3

Identify the causes of back injury and methods to prevent back injuries in the workplace,3,4

Demonstrate knowledge of safety observer responsibilities in the workplace,3,8

Issue work site specific work permits,3,6

Use a forklift mounted safety platform in the workplace,3,5

ARTICULATION OPTIONS

This qualification can provide access to learners to progress to higher-level qualifications in the discipline of Occupational Safety, Hygiene, and in various industrial sectors and related sub-fields. Most qualifications on the NQF require competence regarding this discipline, and thus provide an access point to, for example qualifications in, inter alia, the Physical Planning and Construction, Manufacturing, Engineering, and Technology and the Business, Commerce and Management fields.

The qualification, through the fundamental component for communication and mathematical literacy, articulates horizontally with all NQF registered qualifications at NQF Level 3, and vertically with NQF Levels 2 and 4.