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SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Occupational Health and Safety

Registered by NSB 09, Health Sciences and Social Services, publishes the following qualification and unit standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the qualification. The full qualification and unit standards can be accessed via the SAQA web-site at www.saqqa.org.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, 1067 Arcadia Street, Hatfield Forum West, Hatfield.

Comment on the unit standards should reach SAQA at the address *below and no later than 7 June 2004*. All correspondence should be marked **Standards Setting – SGB Occupational Health and Safety** and addressed to

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY



Qualification Title:	National Certificate in Occupational Safety, Hygiene and Environment (NQF Level 2)
NQF Level:	2
Field:	Health Sciences and Social Services
Sub-field:	Preventive
SGB:	Occupational Health and Safety
Credits:	138 (minimum)

Rationale

Learners credited with this qualification are likely to be working in the occupational safety, hygiene and environmental disciplines. For attainment of the Unit Standards, learners are required to integrate practical skills with essential knowledge, and to obtain the qualification they are required to integrate the competencies credited in the Unit Standards that the qualification is based on.

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 human and economic costs. Indirect costs are also incurred and can include poor morale, poor productivity, downtime, etc. 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 entry level to a career path in one of the areas of specialisation in Occupational Safety, Hygiene and Environment (SHE). 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.

Purpose of the qualification

This qualification enables learners to identify and evaluate occupational safety, hygiene and environmental factors, in occupational environments, which may have a detrimental effect on the health and safety of learners in such environments. Learners credited with this qualification are able to perform essential measurements and functions that promote a culture of health and safety in occupational environments. The qualification is designed to be flexible and accessible.

Learners credited with this qualification are capable of:

- Communicating effectively using visual, mathematic and language skills in the modes of oral and written presentation
- Solving mathematic 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 safe, healthy workplace environments and conduct
- Working effectively with others as a member of a team, group, organisation or community to attain generic occupational, as well as specialised occupational safety or hygiene or environment operational competence

Access to the qualification

Access to this qualification is open.

Assumptions of learning already in place

This qualification was designed based on the assumption that learners embarking on learning towards this qualification have already attained the language, communication, and mathematic literacy competencies required at NQF Level 1, including that they are able to:

- Engage in a range of speaking and listening interactions for a variety of purposes
- Explore and use a variety of strategies to learn
- Identify and respond to selected literary texts
- Read and respond to a range of text types
- Write for a variety of different purposes Analyse cultural products and processes as representations of shape, space and time
- Collect, analyse, use and communicate numerical data
- Critically analyse how mathematics is used in social, political and economic relations
- Demonstrate an understanding of and use the numbering system
- Describe and represent objects and the environment in terms of shape, space, time and motion
- Describe, represent and interpret mathematic models in different contexts
- Use algebraic notation, conventions and terminology to solve problems
- Use maps to access and communicate information concerning routes, location and direction
- Work with measurement in a variety of contexts
- Work with patterns in various contexts
- Working with numbers in various contexts

Rules of Combination

All Fundamental component Unit Standards are compulsory (52 credits must be attained):

- 20 credits for Communication and Language
- 16 credits for Mathematic Literacy
- 7 credits for Natural Sciences
- 9 credits for Computer Literacy

All Core component Unit Standards are compulsory (66 credits must be attained).

The Elective Component consists of 27 Unit Standards, totalling 95 credits, from which at least 20 credits must be attained.

Exit level Outcomes and Associated Assessment criteria

Exit level Outcome 1: Communicate effectively using visual, mathematic and language skills in the modes of oral and written presentation

Associated Assessment criteria

- Information from texts is accessed and used appropriately and effectively for specific contexts
- Oral communication is maintained and adapted according to specific contexts
- Writing is appropriate for defined contexts

Exit level Outcome 2: Solve mathematic problems related to finances, patterns, statistics, shape and motion using numbers and number systems

Associated Assessment criteria

- Related problems are solved using patterns and basic mathematic functions
- Life and work related problems are investigated using relevant statistics
- Rational and irrational numbers and number systems are used effectively
- Shape and motion in 2- and 3-dimensional space are describe and represented accurately
- Financial aspects of personal and community life are investigated and monitored effectively for specified contexts

Exit level Outcome 3: Describe concepts and principles in science and the natural environment

Associated Assessment criteria

- The concept of science is described correctly
- Fundamental concepts and principles in the natural sciences are described correctly
- Human systems are accurately described
- The relationship between society and the natural environment is accurately described

Exit level Outcome 4: Operate personal computers and computer systems

Associated Assessment criteria

- Personal computer systems and operating systems are used effectively for specified contexts
- Personal computer systems and operating systems are used correctly
- Use of personal computer systems and operating systems meet security requirements

Exit level Outcome 5: Collect, analyse, organise and critically evaluate information about occupational hygiene, safety and environmental conditions and elements using science and technology effectively and critically to measure them

Range: Measurement of mass, pressure, noise levels, air velocity, volume flow rate, illumination levels, environmental thermal conditions, impact of industrial processes on environmental receptors, ventilation, gases etc. are included.

Associated Assessment criteria

- Identification and description of occupational hygiene, safety and environmental conditions and elements are accurate
- Relevant principles of measurement are accurately identified and described
- Measurements are accurate
- Measurements selected are appropriate for specified contexts
- Instruments and technologies selected for measurement are appropriate for specified contexts and purposes
- Relevant legal and other context-specific requirements are adhered to

Exit level Outcome 6: Identify and solve problems to make responsible decisions regarding workplace hazards and risks

Range: Risks include sexually transmitted diseases such as HIV/AIDS

Associated Assessment criteria

- Occupational safety, hygiene and environment principles are accurately described
- Workplace hazards and risks are accurately identified
- Workplace hazards and risks are addressed according to specified procedures and requirements
- Workplace hazards and risks are recorded according to specified recording procedures
- Workplace hazards and risks are reported according to specified reporting procedures
- Corrective and/or mitigation measures are taken where necessary
- Corrective and/or mitigation measures are appropriate for specified context

Exit level Outcome 7: Ensure safe, healthy workplace environments and conduct

Range: Qualifying learners are required to take responsibility for their own conduct

Associated Assessment criteria

- Workplace safety, health and environmental principles and procedures are accurately described
- Workplace safety, health and environmental requirements are adhered to at all times
- Personal protective and monitoring equipment is used correctly and when appropriate

Exit level Outcome 8: Work effectively with others as a member of a team, group, organisation or community to attain generic occupational, as well as specialised occupational safety OR hygiene OR environment operational competence.

Associated Assessment criteria

- Explanations and descriptions related to concepts of South African citizenship are accurate

Range: Concepts include: diversity, change, development, social justice, equity, democracy, rights and responsibilities of individuals under the South African Constitution, structures that reinforce and support human rights, etc.

- The role and impact of technology and information technology in society is described and evaluated
- Planning of time is effective
- Life decisions are based on knowledge of self
- Workplace safety and security requirements are adhered to
- Principles of safety, hygiene and environment management are adhered to
- Analysis is accurate

Range: Analysis of, for example, dust samples, energy related activities, life sustainability of refuge bays, etc. is included

- Inspections meet specified requirements

Range: Inspections include, for example, inspection of percussion rock drills, and safety inspections

- Sampling and measurements are accurate and meet specified requirements

Range: Sampling and measurement of, for example, water content, temperature, radioactive contamination, radiation, cooling power, low air velocities, air, water and barometric pressure, thermal conditions, personal equivalent noise exposure levels, environmental pollution, etc.

International comparability

This qualification and component Unit Standards for this qualification have been compared with other countries. The qualification does not exist at the equivalent level on frameworks in New Zealand, United Kingdom, and Australia. However, 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 programs 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 is year 12, or equivalent to the South African NQF Level 4.

In the United Kingdom, no equivalent for the South African NQF Level 2 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 all at a higher level than this qualification, and include the following:

Title	Level	Credits
Protect health and safety in a workplace	1	1
Assist in evaluating occupational health and safety standards and practice	4	15
Assist in hazard identification and control for occupational health and safety practice	4	10
Demonstrate knowledge of health and safety management requirements for contractors working on site	4	8
Explain the establishment and operation of a workplace health and safety committee	4	5
Explain the requirements of the health and safety in employment act (HSE) 1992	4	2
Maintain standards of practice in an occupational health and safety practice	5	5
Develop and implement workplace occupational health and safety policy and standards	5	10

Develop systems for occupational health and safety management practice	6	20
Evaluate occupational health and safety standards and practice	6	30
Facilitate hazard management in an occupational health and safety practice	6	30
Plan and evaluate programs to promote occupational health and safety practice	6	20
Implement workplace health and safety management requirements	4	25
Manage workplace management health and safety	5	10

Integrated assessment

For awarding of this qualification, a learner must achieve all core and fundamental Unit Standards, and at least 20 credits from elective Unit Standards for one of the specialisation areas (Safety, Hygiene, or Environment). The assessment criteria in the Unit Standards are performance-based, assessing applied competence rather than only knowledge, or skills. In addition, learners must demonstrate that they can achieve the outcomes in an integrated manner, dealing effectively with different and random demands related to the environmental conditions in occupational contexts, to qualify. Evidence is required that the learner is able to achieve the exit level outcomes of the qualification as a whole and thus its purpose, at the time of the award of the qualification. Workplace experience can be recognised when assessing towards this qualification.

Recognition of prior learning (RPL)

This qualification can be achieved wholly, or in part, through recognition of prior learning. Evidence 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. As such, evidence should be judged according to the general principles of assessment described in the notes to assessors below. 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). The applicant must be assessed against the specific outcomes and with the assessment criteria for the relevant Unit Standards. A qualification will be awarded should a learner demonstrate that the exit level outcomes of the qualification have been attained.

Articulation possibilities

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

The qualification, through the fundamental component for communication and mathematic literacy, articulates horizontally with all NQF registered qualifications at NQF Level 2, and vertically up and down with NQF Levels 1 and 3. In addition, Fundamental Unit Standards relating to Natural Sciences and Computer Literacy form part of many other NQF qualifications.

Moderation options

Moderation of assessment and accreditation of providers shall be at the discretion of a relevant ETQA as long as it complies with the SAQA requirements. The ETQA is responsible for moderation of learner achievements of learners who meet the requirements of this qualification. Particular moderation and accreditation requirements are:

- Any institution offering learning that will enable the achievement of this qualification must be accredited as a provider with the relevant ETQA. Providers offering learning towards achievement of any of the Unit Standards that make up this qualification must also be accredited through the relevant ETQA accredited by SAQA.

- The ETQA will oversee assessment and moderation of assessment according to their policies and guidelines for assessment and moderation, or in terms of agreements reached around assessment and moderation between the relevant ETQA and other ETQAs and in terms of the moderation guideline detailed here.
- Moderation must include both internal and external moderation of assessments for the qualification, unless the relevant ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described in Unit Standards as well as the integrated competence described in the qualification.
- Internal moderation of assessment must take place at the point of assessment with external moderation provided by a relevant ETQA according to the moderation guidelines and the agreed ETQA procedures.
- Anyone wishing to be assessed against this qualification may apply to be assessed by any assessment agency, assessor or provider institution that is accredited by the relevant ETQA.

Criteria for assessors

Assessment of learner achievements takes place at providers accredited by the relevant ETQA (RSA, 1998b) for the provision of programs that result in the outcomes specified for the National Certificate in Occupational Safety, Hygiene and Environment (NQF Level 2). Anyone assessing a learner or moderating the assessment of a learner against this qualification must be registered as an assessor with the ETQA. Assessors registered with the relevant ETQA must carry out the assessment of learners for the qualification and any of the Unit Standards that make up this qualification.

To register as an assessor, the following are required:

- Detailed documentary proof of relevant qualification/s, practical training completed, and experience gained (a Portfolio of Evidence)
- NQF recognised assessor credits

Assessors should keep the following general principles in mind when designing and conducting assessments:

- Focus the initial assessment activities on gathering evidence in terms of the main outcomes expressed in the titles of the Unit Standards to ensure assessment is integrated rather than fragmented. Remember that the learner needs to be declared competent in terms of the qualification purpose and exit level outcomes.
- Where assessment across Unit Standard titles or at Unit Standard title level is unmanageable, then focus assessment around each specific outcome, or groups of specific outcomes. Take special note of the need for integrated assessment.
- Make sure evidence is gathered across the entire range, wherever it applies.

In particular, assessors should assess that the learner demonstrates an ability to consider a range of options by:

- Measuring the quality of the observed practical performance as well as the theory and underpinning knowledge.
- Using methods that are varied to allow the learner to display thinking and decision making in the demonstration of practical performance.
- Maintaining a balance between practical performance and theoretical assessment methods to ensure each is measured in accordance with the level of the qualification.
- Taking into account that the relationship between practical and theoretical components is not fixed, but varies according to the type and level of qualification.

All assessments should be conducted in line with the following well-documented principles:

- **Appropriate:** The method of assessment is suited to the performance being assessed.
- **Fair:** The method of assessment does not present any barriers to achievements, which are not related to the evidence.
- **Manage:** The methods used make for easily arranged cost-effective assessments that do not unduly interfere with learning.

- Integrate into work or learning: Evidence collection is integrated into the work or learning process where this is appropriate and feasible.
- Valid: The assessment focuses on the requirements laid down in the standards; i.e. the assessment is fit for purpose.
- Direct: The activities in the assessment mirror the conditions of actual performance as close as possible.
- Authentic: The assessor is satisfied that the work being assessed is attributable to the learner being assessed.
- Sufficient: The evidence collected establishes that all criteria have been met and that performance to the required Standard can be repeated consistently.
- Systematic: Planning and recording is sufficiently rigorous to ensure that assessment is fair.
- Open: Learners can contribute to the planning and accumulation of evidence. Learners for assessment understand the assessment process and the criteria that apply.
- Consistent: The same assessor would make the same judgement again in similar circumstances. The judgement made is similar than the judgement that would be made by other assessors

Learning Components

Sum of Credits Component	NQF Level				Total Credits
	1	2	3	4	
Fundamental	7	45			52
Core	18	16	28	4	66
Elective	33	22	18	22	95
Total	58	83	46	26	213

Component	NLRD Nr	Unit Standard Title	Level	Credits
Fundamental	7507	Demonstrate an understanding of the concept of science	1	2
Fundamental	14110	Demonstrate an understanding of fundamental concepts and principles in the natural sciences	1	5
Fundamental	8963	Access and use information from texts	2	5
Fundamental	8962	Maintain and adapt oral communication	2	5
Fundamental	8967	Use language and communication in occupational learning programs	2	5
Fundamental	8964	Write for a defined context	2	5
Fundamental	14086	Work with a wide range of patterns and basic functions and solve related problems	2	5
Fundamental	14085	Apply basic knowledge of statistics in order to investigate life and work related problems	2	3
Fundamental	7480	Demonstrate understanding of rational and irrational numbers and number systems	2	2
Fundamental	7479	Describe, represent and informally analyse shape and motion in 2- and 3-dimensional space	2	4
Fundamental	7469	Use mathematics to investigate and monitor the financial aspects of personal and community life	2	2
Fundamental	7547	Operate a personal computer system	2	6
Fundamental	7548	Use personal computer operating system	2	3
Core	14656	Demonstrate an understanding of sexuality and sexually transmitted infections including HIV/AIDS	1	5
Core	7489	Show, explain, discuss and analyse the relationship between society and natural environment	1	4
Core	110075	Apply basic fire fighting techniques	1	3
Core	9823	Perform basic life support and/or first aid procedures in emergencies	1	5
Core		Issue and retrieve personal monitoring equipment	1	1
Core		Implement workplace safety, health and environmental principles and procedures	2	6
Core		Conduct preliminary investigations into workplace health, safety, and environment incidents	2	2
Core		Negotiate health and safety agreements	2	3
Core		Measure workplace illumination levels	2	1
Core		Establish mitigation measures for the use of natural environmental resources	2	2
Core		Identify environmental elements using geographical positioning systems (GPS)	2	2
Core		Detect gases present in places of work	3	6
Core		Address workplace hazards and risks	3	6
Core		Control workplace hazardous substances	3	4
Core		Determine levels of ventilation	3	6
Core		Determine particle content of samples of air	3	6
Core		Measure ventilation system pressures	4	4
Elective	14664	Demonstrate knowledge of diversity within different relationships in the South African society	1	3
Elective	7502	Discuss and explain social diversity, human rights and alternative perspectives	1	2
Elective	7486	Explain diversity, change and development in societies	1	4
Elective	15091	Plan to manage one's time	1	3

Component	NLRD Nr	Unit Standard Title	Level	Credits
Elective	7504	Demonstrate skills that relate to a safe and secure environment	1	2
Elective	14443	Demonstrate a critical understanding of the role and impact of technology in society	1	3
Elective	14092	Understand and apply technological knowledge and skills in systems and control	1	3
Elective	14096	Understand and apply technological knowledge and skills in Processes	1	2
Elective	14097	Know, select and use materials, tools and equipment safely for technological purposes	1	3
Elective	7487	Discuss the interrelationships between social justice, equity and democracy	1	4
Elective	7489	Show, explain, discuss and analyse the relationship between society and natural environment	1	4
Elective	11816	Demonstrate knowledge and understanding of the rights and responsibilities of the individual under the South African Constitution	2	2
Elective	11817	Demonstrate knowledge and understanding of the structures that reinforce and support human rights in South Africa	2	3
Elective	11813	Apply knowledge of self in order to make a life decision	2	3
Elective	7546	Describe the application and impact as well as social implications of information technology	2	5
Elective		Inertise coal dust	2	5
Elective		Control the propagation of coal dust explosions	2	2
Elective		Measure virgin rock temperature	2	2
Elective		Measure air, water and barometric pressures	2	
Elective		Monitor workplace compliance to safety, health and environmental requirements	3	5
Elective		Measure workplace noise levels	3	4
Elective		Determine environment thermal conditions	3	4
Elective		Analyse water sample content	3	5
Elective		Measure radioactive contamination and radiation	4	4
Elective		Plan environmental sampling and analysis	4	6
Elective		Manage waste in accordance with national legislation and standards	4	6
Elective		Establish mitigating measures for energy efficiency	4	6

Existing Unit Standards

Component	Number	Unit Standard Title	Level	Credits
Fundamental	7507	Demonstrate an understanding of the concept of science	1	2
Fundamental	14110	Demonstrate an understanding of fundamental concepts and principles in the natural sciences	1	5
Fundamental	8963	Access and use information from texts	2	5
Fundamental	8962	Maintain and adapt oral communication	2	5
Fundamental	8967	Use language and communication in occupational learning programs	2	5
Fundamental	8964	Write for a defined context	2	5
Fundamental	14086	Work with a wide range of patterns and basic functions and solve related problems	2	5
Fundamental	14085	Apply basic knowledge of statistics in order to investigate life and work related problems	2	3
Fundamental	7480	Demonstrate understanding of rational and irrational numbers and number systems	2	2
Fundamental	7479	Describe, represent and informally analyse shape and motion in 2- and 3-dimensional space	2	4
Fundamental	7469	Use mathematics to investigate and monitor the financial aspects of personal and community life	2	2
Fundamental	7547	Operate a personal computer system	2	6
Fundamental	7548	Use personal computer operating system	2	3
Core	14656	Demonstrate an understanding of sexuality and sexually transmitted infections including HIV/AIDS	1	5
Core	7489	Show, explain, discuss and analyse the relationship between society and natural environment	1	4
Core	110075	Apply basic fire fighting techniques	1	3
Core	9823	Perform basic life support and/or first aid procedures in emergencies	1	5
Elective	14664	Demonstrate knowledge of diversity within different relationships in the South African society	1	3
Elective	7502	Discuss and explain social diversity, human rights and alternative perspectives	1	2
Elective	7486	Explain diversity, change and development in societies	1	4
Elective	15091	Plan to manage one's time	1	3
Elective	7504	Demonstrate skills that relate to a safe and secure environment	1	2
Elective	14443	Demonstrate a critical understanding of the role and impact of technology in society	1	3
Elective	14092	Understand and apply technological knowledge and skills in systems and control	1	3
Elective	14096	Understand and apply technological knowledge and skills in Processes	1	2
Elective	14097	Know, select and use materials, tools and equipment safely for technological purposes	1	3
Elective	7487	Discuss the interrelationships between social justice, equity and democracy	1	4
Elective	7489	Show, explain, discuss and analyse the relationship between society and natural environment	1	4
Elective	11816	Demonstrate knowledge and understanding of the rights and responsibilities of the individual under the South African Constitution	2	2
Elective	11817	Demonstrate knowledge and understanding of the structures that reinforce and support human rights in South Africa	2	3
Elective	11813	Apply knowledge of self in order to make a life decision	2	3
Elective	7546	Describe the application and impact as well as social implications of information technology	2	5

New Unit Standards

Component	Unit Standard Title	Level	Credits
Core	Detect gases present in places of work	3	6
Core	Implement workplace safety, health and environmental principles and procedures	2	6
Core	Address workplace hazards and risks	3	6
Core	Conduct preliminary investigations into workplace health, safety, and environment incidents	2	2
Core	Control workplace hazardous substances	3	4
Core	Negotiate health and safety agreements	2	3
Core	Determine levels of ventilation	3	6
Core	Measure workplace illumination levels	2	1
Core	Establish mitigation measures for the use of natural environmental resources	2	2
Core	Issue and retrieve personal monitoring equipment	1	1
Core	Identify environmental elements using geographical positioning systems (GPS)	2	2
Core	Measure ventilation system pressures	4	4
Core	Determine particle content of samples of air	3	6
Elective	Monitor workplace compliance to safety, health and environmental requirements	3	5
Elective	Measure workplace noise levels	3	4
Elective	Determine environment thermal conditions	3	4
Elective	Inertise coal dust	2	5
Elective	Control the propagation of coal dust explosions	2	2
Elective	Measure radioactive contamination and radiation	4	4
Elective	Measure virgin rock temperature	2	2
Elective	Analyse water sample content	3	5
Elective	Plan environmental sampling and analysis	4	6
Elective	Manage waste in accordance with national legislation and standards	4	6
Elective	Establish mitigating measures for energy efficiency	4	6
Elective	Measure air, water and barometric pressures	2	2

1. UNIT STANDARD TITLE: DETECT GASES PRESENT IN PLACES OF WORK**Specific Outcomes**

- Specific Outcome 1: Select methods and instruments for detecting gases that are appropriate for specified contexts
- Specific Outcome 2: Assess the functionality of instruments used for detecting gases to ensure safety, health and productivity
- Specific Outcome 3: Test for the presence of gases using appropriate instruments
- Specific Outcome 4: Analyse results of testing for the presence of gases

2. UNIT STANDARD TITLE: IMPLEMENT WORKPLACE SAFETY, HEALTH AND ENVIRONMENTAL PRINCIPLES AND PROCEDURES**Specific Outcomes**

- Specific Outcome 1: Explain emergency preparedness and response in terms of specified requirements
- Specific Outcome 2: Use workplace personal protective and/or monitoring equipment to ensure safety, health and productivity
- Specific Outcome 3: Apply workplace safety, health and environmental principles and procedures to ensure safety, health and productivity
- Specific Outcome 4: Exercise workplace safety, health and environmental responsibilities appropriate for specified contexts
- Specific Outcome 5: Manually handle workplace materials safely

3. UNIT STANDARD TITLE: MONITOR WORKPLACE COMPLIANCE TO SAFETY, HEALTH AND ENVIRONMENTAL REQUIREMENTS**Specific Outcomes**

- Specific Outcome 1: Explain the specified requirements to monitor workplace compliance to safety, health and environment
- Specific Outcome 2: Monitor workplace compliance to safety, health and environmental requirements against specified requirements
- Specific Outcome 3: Evaluate performance of workplace safety activities required by safety, health and environmental management programs
- Specific Outcome 4: Remedy workplace non-compliance to and non-performance in terms of safety, health and environmental requirements and programs when necessary

4. UNIT STANDARD TITLE: ADDRESS WORKPLACE HAZARDS AND RISKS**Specific Outcomes**

- Specific Outcome 1: Explain the legal and specified requirements to conduct safety inspections, and identify and address workplace hazards
- Specific Outcome 2: Plan pre-use and audit inspections, and workplace hazard identification
- Specific Outcome 3: Conduct pre-use and audit inspections to identify hazards
- Specific Outcome 4: Report on inspections, and remedy workplace hazards and associated risks

5. UNIT STANDARD TITLE: CONDUCT PRELIMINARY INVESTIGATIONS INTO WORKPLACE HEALTH, SAFETY, AND ENVIRONMENT INCIDENTS**Specific Outcomes**

- Specific Outcome 1: Describe requirements for preliminary workplace safety, health and environment incident investigation
- Specific Outcome 2: Select approaches for preliminary incident investigations appropriate for specified contexts
- Specific Outcome 3: Gather data for preliminary workplace safety, health and environment incident investigation that is accurate
- Specific Outcome 4: Record and report workplace safety, health and environment incident investigation data accurately and as specified

6. UNIT STANDARD TITLE: CONTROL WORKPLACE HAZARDOUS SUBSTANCES**Specific Outcomes**

- Specific Outcome 1: Describe the legal and specified requirements for identifying and dealing with workplace hazardous substances
- Specific Outcome 2: Identify workplace hazardous substances in specified contexts
- Specific Outcome 3: Identify risks associated with workplace hazardous substances in specified contexts
- Specific Outcome 4: Control workplace hazardous substances in specified contexts

7. UNIT STANDARD TITLE: NEGOTIATE HEALTH AND SAFETY AGREEMENTS**Specific Outcomes**

- Specific Outcome 1: Describe legislation pertaining to health and safety representatives
- Specific Outcome 2: Explain the specified requirements for participating in the establishment, implementation and monitoring of health and safety agreements.
- Specific Outcome 3: Participate in the negotiation of health and safety agreements through consultation
- Specific Outcome 4: Monitor the implementation of health and safety agreements against agreed criteria

8. UNIT STANDARD TITLE: DETERMINE PARTICLE CONTENT OF SAMPLES OF AIR**Specific Outcomes**

- Specific Outcome 1: Select, prepare and assemble equipment that is fit-for-purpose for sampling
- Specific Outcome 2: Sample air to determine particle content for analysis
- Specific Outcome 3: Accurately analyse particle content of air
- Specific Outcome 4: Report findings of air sample analysis as specified

9. UNIT STANDARD TITLE: INERTISE COAL DUST**Specific Outcomes**

- Specific Outcome 1: Describe the specified requirements for collecting and analysing dust mixture samples
- Specific Outcome 2: Collect dust mixture samples following specified procedures
- Specific Outcome 3: Prepare dust mixture samples for analysis
- Specific Outcome 4: Analyse samples correctly

10. UNIT STANDARD TITLE: ANALYSE WATER SAMPLE CONTENT**Specific Outcomes**

- Specific Outcome 1: Select water sampling points, methods, and apparatus that are appropriate for specified sampling purposes
- Specific Outcome 2: Collect water samples for content analysis
- Specific Outcome 3: Record and analyse water sample content to determine acceptability and quality
- Specific Outcome 4: Report regarding water sample content and quality

11. UNIT STANDARD TITLE: PLAN ENVIRONMENTAL SAMPLING AND ANALYSIS**Specific Outcomes**

- Specific Outcome 1: Make arrangements for sampling and analysis for environmental assessments
- Specific Outcome 2: Assess the environmental media to be sampled and analysed by gathering information
- Specific Outcome 3: Identify approved and appropriate sampling and analytical methods and procedures
- Specific Outcome 4: Identify suitable laboratories and determine their sampling requirements
- Specific Outcome 5: Prepare for environmental sampling and analysis that meet specified requirements

12. UNIT STANDARD TITLE: CONTROL THE PROPAGATION OF COAL DUST EXPLOSIONS**Specific Outcomes**

- Specific Outcome 1: Explain the specified requirements pertaining to the installation of explosion barriers
- Specific Outcome 2: Identify explosion barrier installation equipment appropriate for specified contexts
- Specific Outcome 3: Identify explosion barrier installation sites
- Specific Outcome 4: Install explosion barriers to control explosions

13. UNIT STANDARD TITLE: DETERMINE LEVELS OF VENTILATION**Specific Outcomes**

- Specific Outcome 1: Explain the specified requirements for determining velocity, and volume flow rate of air, and cooling power relevant for specified contexts
- Specific Outcome 2: Select positions, methods, equipment and measurement instruments for air velocity, volume flow rate and cooling power measurement relevant for specified contexts
- Specific Outcome 3: Determine air velocity, calculate volume flow rate of air and measure cooling power using appropriate instruments
- Specific Outcome 4: Evaluate air velocity and volume flow rate results against acceptable limits

14. UNIT STANDARD TITLE: MEASURE WORKPLACE ILLUMINATION LEVELS**Specific Outcomes**

- Specific Outcome 1: Select appropriate positions, equipment, methods and instruments for illumination level measurement
- Specific Outcome 2: Measure illumination levels using equipment as specified
- Specific Outcome 3: Analyse illumination level measurement results in terms of recommended workplace illumination levels
- Specific Outcome 4: Report regarding workplace illumination levels according to specified requirements

15. UNIT STANDARD TITLE: MANAGE WASTE IN ACCORDANCE WITH NATIONAL LEGISLATION AND STANDARDS**Specific Outcomes**

- Specific Outcome 1: Categorise, store and label waste for disposal in accordance with national legislation and standards
- Specific Outcome 2: Dispose of waste to an applicable permitted waste disposal facility and audit waste disposal facilities to ensure compliance with legislation governing the disposal of waste
- Specific Outcome 3: Develop waste disposal procedures in line with current national standards and international agreements and best developed and available technology

16. UNIT STANDARD TITLE: MEASURE WORKPLACE NOISE LEVELS**Specific Outcomes**

- Specific Outcome 1: Select appropriate positions, equipment, methods and instruments for noise level measurement
- Specific Outcome 2: Measure noise levels for analysis
- Specific Outcome 3: Analyse noise level measurement results against criteria for acceptable levels Instruments are retrieved, examined and re-calibrated according to specified requirements
- Specific Outcome 4: Report regarding workplace noise levels to improve safety, health and productivity

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17. UNIT STANDARD TITLE: ESTABLISH MITIGATING MEASURES FOR ENERGY EFFICIENCY**Specific Outcomes**

- Specific Outcome 1: Identify energy related activities in particular settings
- Specific Outcome 2: Determine the extent of energy consumption as a result of energy related activities
- Specific Outcome 3: Calculate the air pollution potential of energy related activities based on energy consumption
- Specific Outcome 4: Pose mitigation measures and compile energy efficiency procedures for energy related activities according to specified requirements

18. UNIT STANDARD TITLE: MEASURE RADIOACTIVE CONTAMINATION AND RADIATION**Specific Outcomes**

- Specific Outcome 1: Select position, instruments and methods for radioactive surface contamination and low-level gamma radiation rates measurement according to specified requirements
- Specific Outcome 2: Measure radioactive surface contamination and low level gamma radiation dose rates for analysis
- Specific Outcome 3: Analyse radioactive surface contamination and low level gamma radiation dose rates in terms of specified limits and allowable levels
- Specific Outcome 4: Report radioactive surface contamination and low level gamma radiation dose rates to improve health, safety and productivity

19. UNIT STANDARD TITLE: DETERMINE ENVIRONMENT THERMAL CONDITIONS**Specific Outcomes**

- Specific Outcome 1: Select appropriate positions, equipment, instruments and methods for measurement of thermal conditions
- Specific Outcome 2: Determine thermal conditions using instruments correctly
- Specific Outcome 3: Analyse thermal condition measurement results for identifying sub-standard conditions
- Specific Outcome 4: Report thermal condition measurement results to improve health, safety and productivity

20. UNIT STANDARD TITLE: ESTABLISH MITIGATION MEASURES FOR THE USE OF NATURAL ENVIRONMENTAL RESOURCES

Specific Outcomes

Specific Outcome 1: Identify the use of natural environmental resources in specified contexts

Specific Outcome 2: Quantify the use of natural environmental resources in specified contexts

Specific Outcome 3: Compare the extent of use of natural environment resources in specified contexts to national goals aimed at reducing their use

Specific Outcome 4: Pose mitigation measures for the use of natural environmental resources in specified contexts

21. UNIT STANDARD TITLE: MEASURE VIRGIN ROCK TEMPERATURE

Specific Outcomes

Specific Outcome 1: Select techniques, equipment and positions for measuring virgin rock temperature according to requirements

Specific Outcome 2: Measure virgin rock temperature using appropriate techniques and equipment

Specific Outcome 3: Record and analyse virgin rock temperature measurements according to specified requirements

Specific Outcome 4: Report regarding virgin rock temperature according to specified requirements

22. UNIT STANDARD TITLE: ISSUE AND RETRIEVE PERSONAL MONITORING EQUIPMENT

Specific Outcomes

Specific Outcome 1: Explain the specified requirements pertaining to personal monitoring equipment

Specific Outcome 2: Issue personal monitoring equipment to ensure safety, health and productivity

Specific Outcome 3: Retrieve personal monitoring equipment following specified procedures

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23. UNIT STANDARD TITLE: IDENTIFY ENVIRONMENTAL ELEMENTS USING GEOGRAPHICAL POSITIONING SYSTEMS (GPS)

Specific Outcomes

- Specific Outcome 1: Accurately distinguish between man-made and natural environmental elements
- Specific Outcome 2: Identify environmental elements using a Geographical Positioning System (GPS)
- Specific Outcome 3: Locate environmental elements using a Geographical Positioning System (GPS) in specified contexts
- Specific Outcome 4: Record environmental elements in specified contexts using a Geographical Positioning System (GPS) in specified contexts

24. UNIT STANDARD TITLE: MEASURE VENTILATION SYSTEM PRESSURES

Specific Outcomes

- Specific Outcome 1: Select equipment and instruments appropriate for measuring ventilation system pressures
- Specific Outcome 2: Select positions for measuring ventilation system pressures that meet specified requirements
- Specific Outcome 3: Measure ventilation system pressures according to specified requirements
- Specific Outcome 4: Analyse ventilation system pressures to address unacceptable conditions

25. UNIT STANDARD TITLE: MEASURE AIR, WATER AND BAROMETRIC PRESSURES

Specific Outcomes

- Specific Outcome 1: Explain the process and concepts of measuring pressure relevant for specific contexts
- Specific Outcome 2: Select instruments, equipment and positions appropriate for measurement of specified pressures
- Specific Outcome 3: Measure compressed air, water and barometric pressures accurately
- Specific Outcome 4: Analyse pressure measurement results to ascertain acceptability