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**AIDS HELPLINE: 0800-0123-22 Prevention is the cure**

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## GOVERNMENT NOTICES

No. 217

## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

18 March 2005



Established in terms of Act 58 of 1995

## 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

**Environmental Sciences, Environmental Management and Waste Management**

Registered by **NSB 10, Physical, Mathematical, Computer and Life Sciences** 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 and unit standards. The qualification and unit standards can be accessed via the SAQA web-site at [www.saga.org.za](http://www.saga.org.za). Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, Hatfield Forum West, 1067 Arcadia Street, Hatfield.

Comment on the qualification and unit standards should reach SAQA at the address **below and no later than 18 April 2005**. All correspondence should be marked **Standards Setting – SGB Environmental Sciences, Environmental Management and Waste Management** and addressed to

The Director: Standards Setting and Development  
SAQA

Attention: Mr. E Brown  
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Private Bag X06  
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ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### QUALIFICATION:

#### *General Education and Training Certificate: Environmental Practice*

SAQA QUAL ID	QUALIFICATION TITLE		
49552	General Education and Training Certificate: Environmental Practice		
SGB NAME	NSB 10	PROVIDER NAME	
SGB Environmental Sc & Env Mgt & Waste Mgt	Physical, Mathematical, Computer and Life Sciences		
QUAL TYPE	FIELD	SUBFIELD	
National Certificate	Physical, Mathematical, Computer and Life Sciences	Environmental Sciences	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	120	Level 1	Regular-Unit Stds Based

#### **PURPOSE AND RATIONALE OF THE QUALIFICATION**

This qualification is the first in a series for practitioners in the field of environmental science, environmental management and waste management. This series of qualifications will equip practitioners with the skills, knowledge and values to contribute towards the wise and effective use and management of our natural resources and ecological systems.

The specific purpose of this qualification represents the skills, knowledge and understanding required by competent practitioners to:

- > Have an elementary understanding of the concept of the environment and the basic principles which underpin the sustainable use of resources
- > Understand their role and perform the activities associated with their role, using the tools, materials and practices of their particular field
- > Understand how they are affected by laws, agreements and policies related to their particular context
- > Understand the impact of their activities on the (natural) environment, as well as the implications of these activities for the environment.

With this understanding, learners will be able to engage productively and responsibly in work, individual or community-related activities in the field of environmental science, environmental management and waste management. This qualification will also serve as a basis for further learning, and will equip learners with the knowledge, skills and values to participate meaningfully in society and contribute towards developing sustainable communities.

This qualification can be obtained in any context within the field of environmental science, environmental management and waste management, eg: local government, public and private waste management enterprises, cultural or natural heritage sites, community projects, recycling and recovery of resources, control and eradication of invasive and alien species, rural development, or as workers with environmental functions in a range of industries such as mining, chemicals or manufacturing, etc.

This qualification will enable providers, assessors and learners to plan, implement and measure the outcomes of suitable learning programmes, or to recognize prior learning.

This qualification recognises skills, knowledge and values relevant to environmental science, environmental and waste management activities. It is designed for learners who engage actively in such activities. These activities are necessary in order to develop a portfolio of evidence. The qualification is suitable for learners who:

- > Have attended courses and then apply the knowledge gained to activities in a workplace or in a community, or
- > Are already workers and have acquired the skills and knowledge without attending formal courses (RPL can be done through the summative assessment and portfolio of evidence), or



- > Are already active in the community and have acquired the skills and knowledge without attending formal courses (RPL can be done through the summative assessment and portfolio of evidence), or
- > Participate in skills programmes and the appropriate work experience or community work, or
- > Are part of a learnership programme which integrates structured learning and work experience, or
- > Acquire their learning through any combination of the above.

#### Rationale:

South Africa has a need to manage and protect its natural resources and ecological systems, while simultaneously using its resources in a sustainable manner to promote social, physical and economic development.

There is also a need for people as individuals, and as members of social or workplace communities, to become aware of their responsibilities towards the environment and to be empowered to make informed choices regarding their own activities and the impact that these activities have on the environment. There is also a need for people to develop practices which will ensure that their activities, individually and collectively, result in the sustainable use of resources and minimise impact on the environment.

Recent developments in environmental legislation have resulted in an increased demand for practitioners with the necessary skills, knowledge and values to fulfil these legislative requirements.

Such practitioners - as learners, as workers and as members of social communities - need to be equipped to engage with the complexities and challenges which arise from this need to ensure that use and development is socially, ecologically and economically sustainable.

#### **RECOGNIZE PREVIOUS LEARNING?**

Y

#### **LEARNING ASSUMED TO BE IN PLACE**

It is assumed that the learner has attained ABET Level 3 in Communication and Mathematics.

#### Recognition of prior learning:

This qualification may be obtained through the process of RPL. The learner should be thoroughly briefed prior to the assessment and support should be provided to assist the learner in the process of developing a portfolio. While this is primarily a context-based qualification, evidence from other areas of endeavour may be introduced if pertinent to any of the exit level outcomes.

#### **QUALIFICATION RULES**

#### **EXIT LEVEL OUTCOMES**

1. Demonstrate the use of appropriate numeracy and communication skills.
2. Handle material and perform tasks without an adverse impact on the environment.  
Range: Material includes waste, hazardous substances, cleaning materials, natural resources, etc.
3. Recognise and respond to issues that have an impact on the environment.  
Range: The response is appropriate to the level of authority and level of skill.
4. Gather and contribute information required to respond to environmental conditions.
5. Manage own performance and contribute to the performance of the team and the organisation.

#### **ASSOCIATED ASSESSMENT CRITERIA**

1.
  - > Appropriate numeracy and verbal and written communication skills are selected and used in the performance of tasks.
  - > Appropriate numeracy and verbal and written communication skills are selected and used to explain concepts and processes during assessment.
2.
  - > A specific practice is described and explained, relating the tools and the materials to the practice, and explaining the environmental principles which underpin the practice.
  - > Resources are used in a sustainable manner, without injury to self or fellow workers or damage to tools, equipment, infrastructure or the environment.

3.
  - > Actual or potential environmental impacts are identified.
  - > Actual or potential environmental impacts are reported timeously and accurately.
4.
  - > Appropriate information is collected and recorded accurately.
  - > Information is contributed in an appropriate form or format within the required timeframe.
5.
  - > Contribution to cleanliness and condition of tools, equipment and infrastructure is made in an environmentally responsible and safe manner.
  - > Laws, policies and procedures which govern the learner's particular context are described and explained.
  - > The learner's role and contribution is described and explained.

#### Integrated Assessment:

In order to achieve the aims of integrated assessment it is recommended that the assessor assesses all components of the learning simultaneously and that credits are awarded for the unit standards during this assessment.

It is recommended that learning components (ie fundamental and core) are combined into assignments and projects which are then included in the portfolio of evidence. This will form the basis for the bulk of the assessment. The assessor can then focus on specific areas for further probing and verification.

The assessment process should:

- > Cover the explicit activities required for the qualification as well as the understanding of the concepts and principles which underpin the activities
- > Establish how the critical outcomes have been advanced by the learning process.

The integrated assessment must be based on a summative assessment guide. The guide will spell out how the assessor will assess different aspects of the performance and will include:

- > Looking at records and reports in the portfolio and reviewing previous assessments
- > Asking questions and initiating short discussions to test understanding
- > Observing the learner at work (in the primary activity as well as in other interactions).

The learner may choose in which language s/he wants to be assessed. This should be established as part of a process of preparing the learner for assessment and familiarising the learner with the approach being taken.

While this is primarily a context-based qualification, evidence from other areas of endeavour may be introduced if pertinent to any of the exit-level outcomes.

Assessors should also evaluate evidence that the learner has been performing consistently to standard over a period of time.

#### INTERNATIONAL COMPARABILITY

No other qualifications have been identified which are directly comparable with this one in terms of level and scope. The fact that this is a generic qualification that must serve the diverse needs of the broad field of environmental science, environmental management and waste management, puts it in a class of its own. Internationally, qualifications related to environmental science and environmental management fall into the sphere of higher education, apart from a few isolated examples at supervisory and first-tier management level. There are a limited number of qualifications which focus on waste management, such as the Scottish Vocational Qualifications and the National Vocational Qualifications of England, Wales and Northern Ireland. The approach taken in these qualifications aligns broadly with the approach taken here: qualifications are standards-based, learning is workplace-based, assessment is observation- and portfolio-based, and skills and knowledge are acquired, practiced and assessed within contexts relevant to the learner. However, this (ie the South African) qualification places a greater requirement on the learner to demonstrate successful integration of the knowledge and skills acquired. Another recent development has been the initiative by the International Solid Waste Association to develop qualifications and promote training internationally. Developments are also taking place in other parts of the world, notably South America. However, concrete information of the type needed to carry out a detailed comparison could not be found within the limits of the research capability.

Narrow consultation:

Those participating in the work of developing, generating and reviewing this qualification and the unit standards were representative of their constituencies and came from a range of contexts within the environmental science, environmental management and waste management field.

### ARTICULATION OPTIONS

This qualification has been designed and structured so that qualifying learners can move from one context to another. Employers or institutions should be able to evaluate the outcomes of this qualification against the needs of their context and structure top-up learning appropriately. Equally, holders of other qualifications may be evaluated against this qualification for the purpose of RPL.

This qualification has been designed as a generic qualification which will serve the diverse needs of the field of environmental science, environmental management and waste management. While a certain amount of the learning is applicable across the field, the balance will be related to the learner's context. Each context will have a different focus and this will determine what qualifications, both horizontally and vertically, will articulate with this one.

### MODERATION OPTIONS

Moderators for the qualification should be qualified and accredited with an appropriate ETQA. To assure the quality of the assessment process, the moderation should cover the following:

- > Assessor credentials.
- > The assessment instrument.
- > The assessment process.

Moderators should be qualified assessors in their own right.

### CRITERIA FOR THE REGISTRATION OF ASSESSORS

The following criteria should be applied by the relevant ETQA:

1. Appropriate qualification in a relevant field of environmental science, environmental management and waste management at NQF level 2 or higher with a minimum of 2 years' experience in a relevant context. The subject matter expertise of the assessor can be established by recognition of prior learning.
2. Appropriate experience and understanding of assessment theory, processes and practices.
3. Good interpersonal skills and ability to balance the conflicting requirements of:
  - > Maintaining national standards
  - > The interests of the learner
  - > The need for transformation and redressing the legacies of the past
  - > The cultural background and language of the learner.
4. Registration as an assessor with a relevant ETQA.
5. Any other criteria required by a relevant ETQA.

### NOTES

### UNIT STANDARDS

(Note: A blank space after this line means that the qualification is not based on Unit Standards.)

	UNIT STANDARD ID AND TITLE	LEVEL	CREDITS	STATUS
Core	13167 Identify potential hazards and critical safety issues in the workplace	Level 1	2	Registered
Core	14445 Frame and implement an individual action plan to improve productivity within an organisational unit	Level 1	3	Registered
Core	14569 Demonstrate an understanding of how to participate effectively in the workplace	Level 1	3	Registered
Core	110082 Understand the impact of customer service on a business	Level 1	6	Registered
Core	119302 Select, use and care for hand tools and basic equipment in environmentally related contexts	Level 1	6	Draft - Prep for P Comment
Core	119303 Handle and dispose of waste	Level 1	12	Draft - Prep for P Comment
Core	119305 Demonstrate an awareness of the impact of human activities on the environment	Level 1	12	Draft - Prep for P Comment
Core	119306 Recognise, group, use and care for materials which can impact on health and the environment.	Level 1	10	Draft - Prep for P Comment
Elective	9357 Develop and use keyboard skills to enter text	Level 1	4	Registered
Elective	10008 Write and present a simple business plan	Level 1	7	Reregistered
Elective	10567 Transport personnel, material and equipment using Light Delivery Vehicle	Level 1	4	Registered

Elective	13197 Recognise and explain the purpose of various input, transmission and storage devices, and understand how to care for them	Level 1	3	Draft - Prep for P Comment
Elective	14666 Prepare oneself for employment	Level 1	4	Registered
Elective	110044 Collect information to support a community needs assessment	Level 1	12	Registered
Elective	110045 Support the facilitation of learning in a development practice project	Level 1	12	Registered
Elective	110075 Apply basic fire fighting techniques	Level 1	3	Registered
Elective	116511 Carry out basic first aid treatment in the workplace	Level 1	1	Registered
Fundamental	7447 Working with numbers in various contexts	Level 1	6	Reregistered
Fundamental	7449 Critically analyse how mathematics is used in social, political and economic relations	Level 1	2	Reregistered
Fundamental	7451 Collect, analyse, use and communicate numerical data	Level 1	2	Reregistered
Fundamental	7461 Use maps to access and communicate information concerning routes, location and direction	Level 1	1	Reregistered
Fundamental	7463 Describe and represent objects and the environment in terms of shape, space, time and motion	Level 1	2	Reregistered
Fundamental	12462 Engage in a range of speaking and listening interactions for a variety of purposes	Level 1	6	Registered
Fundamental	12469 Read and respond to a range of text types	Level 1	6	Registered
Fundamental	12470 Write for a variety of different purposes	Level 1	6	Registered
Fundamental	12471 Explore and use a variety of strategies to learn (revised)	Level 1	5	Registered
Fundamental	13169 Describe and discuss issues relating to HIV-AIDS, TB and sexually transmitted illnesses and their impact on the workplace	Level 1	4	Registered
Fundamental	14084 Demonstrate an understanding of and use the numbering system	Level 1	1	Registered
Fundamental	14661 Demonstrate knowledge of self in order to understand one's identity and role within the immediate community and South African society	Level 1	3	Registered
Fundamental	14664 Demonstrate knowledge of diversity within different relationships in the South African society	Level 1	3	Registered
Fundamental	14780 Apply financial life skills	Level 1	4	Registered
Fundamental	119304 Compile a portfolio of evidence for assessment	Level 1	3	Draft - Prep for P Comment
Fundamental	7467 Collect and use data to establish basic statistical and probability models and solve related problems	Level 2	5	Reregistered





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

1

#### Compile a portfolio of evidence for assessment

SAQA US ID	UNIT STANDARD TITLE		
119304	Compile a portfolio of evidence for assessment		
SGB NAME	NSB 10	PROVIDER NAME	
SGB Environmental Sc & Env Mgt & Waste Mgt	Physical, Mathematical, Computer and Life Sciences		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Physical, Mathematical, Computer and Life Sciences	Environmental Sciences	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 1	Regular

#### SPECIFIC OUTCOME 1

Respond to questions about the reasons for developing a portfolio of evidence and describe briefly how the portfolio is used in the process of assessment.

#### SPECIFIC OUTCOME 2

Use my own portfolio to demonstrate what a portfolio should consist of, and explain briefly why I have included these items.

#### SPECIFIC OUTCOME 3

Use my own material to demonstrate kinds of evidence that can be included in a portfolio, and respond to questions about why I have selected these items for my portfolio.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

2

#### Demonstrate an awareness of the impact of human activities on the environment

SAQA US ID	UNIT STANDARD TITLE		
119305	Demonstrate an awareness of the impact of human activities on the environment		
SGB NAME	NSB 10	PROVIDER NAME	
SGB Environmental Sc & Env Mgt & Waste Mgt	Physical, Mathematical, Computer and Life Sciences		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Physical, Mathematical, Computer and Life Sciences	Environmental Sciences	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 1	Regular

#### **SPECIFIC OUTCOME 1**

Identify the components of the environment and describe their interrelationships.

#### **SPECIFIC OUTCOME 2**

Identify a range of impacts on the environment and use the correct terminology to describe them.

#### **SPECIFIC OUTCOME 3**

Describe natural events and human activities which result in impacts on the environment.

#### **SPECIFIC OUTCOME 4**

Gather information related to a particular environmental impact on the immediate surroundings and use it to describe the cause and effect of this impact.

#### **SPECIFIC OUTCOME 5**

Take appropriate action to address the impacts of human activities on the environment.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

3

## Handle and dispose of waste

SAQA US ID	UNIT STANDARD TITLE		
119303	Handle and dispose of waste		
SGB NAME	NSB 10	PROVIDER NAME	
SGB Environmental Sc & Env Mgt & Waste Mgt	Physical, Mathematical, Computer and Life Sciences		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Physical, Mathematical, Computer and Life Sciences	Environmental Sciences	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 1	Regular

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of what waste is and how it interrelates with the environment.

**SPECIFIC OUTCOME 2**

Identify and describe the concepts and principles of waste management.

**SPECIFIC OUTCOME 3**

Identify and describe the sequence of steps required in the waste management process.

**SPECIFIC OUTCOME 4**

Recognise and respond appropriately to special waste.

**SPECIFIC OUTCOME 5**

Apply waste management principles and procedures in own context.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

4

Recognise, group, use and care for materials which can impact on health and the environment.

SAQA US ID		UNIT STANDARD TITLE	
119306		Recognise, group, use and care for materials which can impact on health and the environment.	
SGB NAME		NSB 10	PROVIDER NAME
SGB Environmental Sc & Env Mgt & Waste Mgt		Physical, Mathematical, Computer and Life Sciences	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Physical, Mathematical, Computer and Life Sciences	Environmental Sciences
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 1	Regular

#### **SPECIFIC OUTCOME 1**

Recognise and group various items found in my context, according to the impact of their material(s) on health and the environment.

#### **SPECIFIC OUTCOME 2**

Read Material Safety Data Sheets and understand their purpose.

#### **SPECIFIC OUTCOME 3**

Understand the physical properties of the materials and relate them to the way the materials occur or are used.

#### **SPECIFIC OUTCOME 4**

Describe the potential impact of the materials on health and the environment, related to their properties.

#### **SPECIFIC OUTCOME 5**

Use materials in my context.

#### **SPECIFIC OUTCOME 6**

Transport, store and care for materials in my context.





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

5

**Select, use and care for hand tools and basic equipment in environmentally related contexts**

SAQA US ID		UNIT STANDARD TITLE	
119302		Select, use and care for hand tools and basic equipment in environmentally related contexts	
SGB NAME		NSB 10	PROVIDER NAME
SGB Environmental Sc & Env Mgt & Waste Mgt		Physical, Mathematical, Computer and Life Sciences	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Physical, Mathematical, Computer and Life Sciences	Environmental Sciences
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	6	Level 1	Regular

#### **SPECIFIC OUTCOME 1**

Select the appropriate hand tools and equipment for a variety of tasks.

#### **SPECIFIC OUTCOME 2**

Inspect and prepare tools and equipment prior to use.

#### **SPECIFIC OUTCOME 3**

Use hand tools or equipment to perform a variety of tasks.

#### **SPECIFIC OUTCOME 4**

Maintain, care for and store tools and equipment in an environmentally responsible manner.

#### **SPECIFIC OUTCOME 5**

Work safely with due care for self, others, tools and equipment, materials and the environment.

No. 218

18 March 2005

**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

**Rail and Pipeline Operations**

Registered by NSB 11, 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 a unit standards upon which qualifications are based. The qualification and unit standards can be accessed via the SAQA web-site at [www.saqa.org.za](http://www.saqa.org.za). Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, Hatfield Forum, 1067 Arcadia Street, Hatfield.

Comment on the unit standards should reach SAQA at the address ***below and no later than 18 April 2005***. All correspondence should be marked **Standards Setting – SGB for Rail and Pipeline Operations** and addressed to

The Director: Standards Setting and Development  
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Attention: Mr. E. Brown

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ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### QUALIFICATION:

#### Further Education and Training Certificate: Pipeline Operations

SAQA QUAL ID	QUALIFICATION TITLE		
49553	Further Education and Training Certificate: Pipeline Operations		
SGB NAME	NSB 11	PROVIDER NAME	
SGB Rail and Pipeline Operations	Services		
QUAL TYPE	FIELD	SUBFIELD	
National Certificate	Services	Transport, Operations and Logistics	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	138	Level 4	Regular-Unit Stds Based

### PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose of the qualification

The purpose of this Further Education and Training Certificate in Pipeline Operations (NQF Level 4) qualification is to instil and maintain service excellence with the focus on safe and efficient working in the field of pipeline transport services.

A learner certified as competent in this qualification will be able to remotely operate, monitor and control pipeline operations for the bulk transport of liquids (typically petroleum products) in, through and out a pipeline network safely in accordance with company-specific policies, procedures and instructions.

This includes activities such as:

- > Operate and control pipeline equipment remotely
- > Monitoring flows, pressures, volumes and status of equipment on the entire pipeline network
- > Utilising pipeline equipment and communication systems
- > Communicate with peers, customers and members of supervisory / management levels by expressing opinions in spoken and written form
- > Performing calculations pertaining to estimated times of arrival for:  
Tranmixtures/pigs/spheres/switching/helicopter/start/stop of intakes and deliveries as well as product adjustment volumes

The understanding of the relevant technology is required to empower the learner to make decisions and take responsibility in the execution of the work by controlling and monitoring pipeline equipment (typically petroleum products) remotely throughout the pipeline network.

The understanding of the context in which the particular tasks will be performed will also enable the learner to conform to safety, health, environmental and quality criteria in the execution of the particular tasks. It could contribute to the full development of the learner, providing recognition within the pipeline operations environment and broader transport sector.

This qualification is part of the specialised area in pipeline transportation and will form part of the learning pathway for persons in the pipeline transport industry against the backdrop of the transport sector as a whole.

The skills, knowledge and values demonstrated within this qualification are essential to facilitate access to, mobility and progression within the industry in order to achieve the increased employability and productivity, as well as potential and economic transformation and economic growth in the pipeline and related industries.

Rationale for the qualification:

This qualification reflects the need in the pipeline operations industry for personnel with knowledge, skills and understanding to operate, monitor and control pipeline operations for the bulk transport of liquids (typically petroleum products) in, through and out a pipeline network.

This qualification reflects the workplace-based needs of pipeline operators working in the pipeline operations industry that is expressed by employers and employees, both now and in the future.

The qualification will provide a means to set standards in the Pipeline Operations industry and would serve to foster professionalism in the Southern African Transport industry to provide a mechanism for regulating the services provided from a quality and professional point of view.

The qualification is the second of three qualifications in the pipeline operations industry. It can be developed further and will allow learners to progress to other qualifications within the pipeline operations - and transport industry. The qualification forms the basis for further learning towards the National Diploma: Pipeline Operations: NQF level 5.

The qualification focuses on the skills, knowledge, values and attitudes required to ensure further progression. The objective is to -

- > Promote the development of knowledge, skills and values that are required in the Pipeline Operations Industry
- > Release the potential of people
- > Provide opportunities for people to move up the value chain
- > Allow access to a National Qualifications Register
- > Ensure that the quality of education and training is enhanced and be of a world class standard

It will provide the broad knowledge, skills and values needed in the Pipeline Operations Industry and will facilitate access to, and mobility and progression within education and training and to progress along a learning path for learners who:

- > Have worked in the Pipeline Operations Industry for many years, but have no formal qualification
- > Wish to extend their range of skills and knowledge of the industry so that they can become competent workers in the Pipeline Operations Industry

The Transport sector and people operating within the pipeline operations industry will benefit from this qualification and its competence standards, which are instrumental to the development and recognition of the foundational, practical and reflective competence (applied competence) needed to render effective and efficient pipeline transport services.

These services are essential in and to the following domains:

- > Enabling the rendering of a pipeline transport service
- > Enabling the rendering of a transport service
- > Contributing to economic growth

Central to the qualification is the development of a culture of a safe and efficient pipeline transport service to meet the needs of clients and consumers.

#### **RECOGNIZE PREVIOUS LEARNING?**

Y

#### **LEARNING ASSUMED TO BE IN PLACE**

The following is the learning assumed to be in place for the Further Education and Training Certificate in Pipeline Operations (NQF Level 4):

Learners accessing this Further Education and Training Certificate in Pipeline Operations (NQF Level 4) will have demonstrated competence in:

- > Communication NQF Level 3
- > Mathematical Literacy NQF Level 3
- > Computer Literacy NQF Level 2

Recognition of prior learning (rpl)

The structure of this Unit Standard-based Qualification makes the recognition of prior learning (RPL) possible, if the learner is able to demonstrate competence in the knowledge, skills, values and attitudes implicit in this Pipeline Operations Qualification.



Learners who already work in the Pipeline Operations industry and who believe that they possess the competencies to enable them to meet all of the outcomes listed in the unit standards will be able to present themselves for assessment against the unit standards of their choice. Once found competent, these learners will be certified as competent and credited accordingly. Recognition of Prior Learning can also be conducted for these learners at qualification level, by means of an Integrated Assessment (see Exit Level Outcomes and associated Assessment Criteria).

The following tools may be used to supplement the above minimum assessment methods:

Valid, reliable and authentic evidence (presented as a portfolio of evidence) from past achievements and experience may serve to supplement the assessment of applied competence. The portfolio could include, inter alia:

1. Written statements from persons (e.g. current and/or previous employers, colleagues, peers, managers, external customers, supervisors) confirming competence of the learner
2. Relevant certificates or awards
3. Previous assessment records
4. Journals/logbook

RPL will allow for accelerated access to further learning and gaining of credits towards the qualification. All RPL is subject to quality assurance by the relevant ETQA and is conducted by a registered assessor.

### **QUALIFICATION RULES**

Level, credits and learning components assigned to the qualification

The fundamental, core and elective learning components that make up this qualification are listed below

Fundamental : Core : Elective  
 10 credits at Level 2  
 26 credits at Level 3: 9 credits at Level 3  
 30 credits at Level 4: 62 credits at Level 4: 50 credits at Level 4  
 56 credits: 62 credits: 69 credits (Select a minimum of 20)

The total credits for this qualification are 187, of which a minimum of 138 must be obtained to achieve this qualification.

In order for a learner to be credited with this qualification, he/she must achieve:

- > All 16 credits from the Mathematical literacy unit standards in the fundamental component of learning
- > All 40 credits from the Communication unit standards in the fundamental component of learning
- > All the 62 credits from the core component of learning
- > At least 20 credits from the elective component of learning.

This will culminate in a total qualification with a minimum credit value of 138 credits.

### **EXIT LEVEL OUTCOMES**

1. Prepare for the movement of product throughout the pipeline network
2. Perform and coordinate a pipeline network start up
3. Manage and co-ordinate the movement and volumes of product through a (multi-product/ dedicated-product) pipeline network
4. Manage and control the movement of transmixtures, off-specification product, pigs and spheres throughout the pipeline network
5. Monitor and implement risk control
6. Perform pipeline network shut-down

The Critical Cross-field Outcomes were integrated with the Unit standards and Assessment Criteria of each unit standard were drafted to include assessment of the degree to which Critical Cross-field Competence has been attained. Learner competence can be assessed against a single unit standard or, in cases where learners are enrolled on a skills programme, competence may be assessed against the relevant cluster of standards on which the skills programme is based.

The following examples illustrate some of the ways in which these unit standards support Critical Cross-field Outcomes:

Critical Cross-field Outcomes supported by the unit standards

- > Communication
- > Information evaluation
- > Organise and manage oneself and one's activities
- > Teamwork
- > Use of science and technology
- > Understand the world as a set of related systems

The above critical cross-field outcomes are supported by the following unit standards:

- > Prepare for the movement of product throughout the pipeline network
- > Perform and coordinate a pipeline network start up
- > Monitor and implement risk control
- > Perform pipeline network shutdown
- > Manage and control the movement of transmixtures, off-specification product, pigs and spheres throughout the pipeline network
- > Manage and co-ordinate the movement and volumes of product through a multi-product pipeline network
- > Manage and co-ordinate the movement and volumes of product through a dedicated-product pipeline network

#### **ASSOCIATED ASSESSMENT CRITERIA**

1.

- > All relevant information as to the status of the pipeline network regarding the preparation of product movement is communicated with all role players by utilising company operating systems in accordance with company operations policies, procedures and instructions.
- > Information is extracted, verified, calculated, adjusted, and captured on applicable systems and pipeline equipment is prepared for product movement in accordance with company operations policies, procedures and instructions, and the operations notice.
- > Pipeline network check and equipment line-up for product movement is performed in accordance with company operations policies, procedures and instructions.

2.

- > Start up of product movement is performed and related information is communicated to all relevant role players in accordance with company operations policies, procedures and instructions.
- > The start up of product movement and pipeline equipment is monitored and related sub-standard conditions are corrected in accordance with company operations policies, procedures and instructions.
- > Information relevant to pipeline network start-up is correctly evaluated, reacted to and captured on applicable information systems.

3.

- > The movement of product volumes is through the pipeline network is calculated correctly, accurately and timeously.
- > Relevant information regarding the product movement and volumes throughout the pipeline network is communicated to all relevant role players
- > Company specific systems /software are used to co-ordinate and control the movement of specific product volumes according to Operations notices and company specific operations procedures, policies and instructions
- > The volumes, intakes, deliveries, losses and gains of the product throughout the pipeline network are safely and efficiently managed, coordinated and accurately controlled.

4.

- > All relevant information as to the movement of transmixtures, off-specification product, pigs and spheres is captured and communicated with all role players by utilising company operating systems.
- > Stations for the handling of transmixtures or off-specification products, launching/receiving of pigs/spheres are prepared in accordance with the operations notice and company policies, procedures and instructions.
- > Movement of transmixtures/off-specification products or pigs/spheres through the pipeline network is calculated correctly

5.

- > Information as to the risk status of pipeline network is captured and communicated to relevant role players.
- > Company and legislative regulations pertaining to risk status of pipeline network is adhered to in

accordance with company policies, procedures and instructions.

- > Relevant emergency plan is activated in accordance with company policies, procedures and instructions.
- > Helicopter movements are monitored and ETAs communicated to relevant role players in accordance with company policies, procedures and instructions.

6.

- > Information regarding the shut-down status of product movement in the pipeline network is extracted, captured and communicated to relevant role players in accordance with the operations notice.
- > Pipeline network is prepared and shut down in accordance with the operations notice and company operations policies, procedures and instructions.
- > The shut-down status of the pipeline equipment is monitored, sub-standard conditions are dealt with and the corrective actions applied in accordance with company policies, procedures and instructions.
- > The pipeline depots and related pipeline equipment is isolated and made safe in accordance with company operations policies, procedures and instructions.

#### Integrated assessment

Because assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, the qualification applies an integrated assessment approach.

Learning, teaching and assessment are inextricably linked. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the unit standards should be integrated.

Assessment of the communication, language, literacy and numeracy should be conducted in conjunction with other aspects and should use authentic Pipeline Operations contexts wherever possible.

A variety of methods must be used in assessment, and tools and activities must be appropriate to the context in which the learner is working. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.

The term 'Integrated Assessment' implies that theoretical and practical components should be assessed together. During integrated assessments the assessor should use formative and summative assessment methods and assess combinations of practical, foundational and reflective competencies (applied competence).

Assessors and moderators should use a range of formative and summative assessment methods. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.

Assessment should ensure that all specific outcomes, embedded knowledge and critical cross-field outcomes are evaluated. The assessment of the critical cross-field outcomes should be integrated with the assessment of specific outcomes and embedded knowledge.

#### Formative Assessment

This kind of assessment will typically take place during training and serves to guide the learner towards full competence.

Assessment can be done in any agreed-upon method of assessment of the knowledge required to perform the various competencies.

To be allowed access to the final qualifying assessment, a learner must show that he/she has reached a level of overall integrated competence.

#### Summative Assessment

For the learner to be certified competent against the qualification, he/she must prove overall competence through the integration of the competencies expressed in the unit standards. The elements of importance here are overall abilities, problem-solving capability and safe working. In addition, assessors should be satisfied that the learner has achieved a level of competence to be able to take charge of any aspect of pipeline operations.

The learner's ability to demonstrate competence against a particular unit standard, under real-life working conditions and in the presence of an assessor, will be assessed. The summative assessment can also be used as a diagnostic assessment tool aimed at identifying the learner's skills gaps.

#### Workplace Assessment

Workplaces are used for assessment purposes provided that the appropriate facilities, tools, equipment, and support systems are available and accessible to both the assessor and the learner. The pipeline operations industry agreed on the following requirements for workplace assessment:

- > Assessment needs to occur in a familiar environment so that the learner is not asked to cope with different equipment and a strange environment at the time of assessment. (This will not detract from the portability of the generic skill being assessed. Portability will be supported through a short depot or region specific orientation session.)
- > Assessment needs to take place at a time and venue mutually agreed to by the assessor and the learner.

#### Methods of assessment

The following methods of assessment have been identified as the preferred measurement and assessment of learner competence in the assessment criteria:

1. Written tests
2. Practical tests
3. Oral assessment methods
4. In-situ (on-the-job) observations
5. Simulation
6. Structured classroom discussions and oral tests

These methods will be selected carefully based on the purpose of the assessment. For example, the written method will be used to assess knowledge and on-the-job demonstration for practical competence. The assessment must integrate a number of different methods (no less than two of those detailed above) in order to give the assessor reliable and valid proof of competence and evidence of required attitudes.

#### INTERNATIONAL COMPARABILITY

The qualification and the content of the standards were the focus of national and international benchmarking, which occurred continually throughout the project, through an open communication process, consultation, as well as requested comments.

The following websites were explored:

1. <http://apprenticeship.det.nsw.edu.au>
2. <http://www.ntis.gov.au>
3. <http://www.anta.gov.au>
4. <http://www.alis.gov.ab.ca>
5. <http://www.open.ac.uk>
6. <http://www.transportation.org.uk>
7. <http://www.sqa.org.uk>
8. <http://www.nzqa.govt.nz>
9. <http://www.openquals.org.uk>
10. <http://www.city-and-guilds.co.uk>
11. <http://www.api-ep.api.org>
12. <http://www.enbridgetechnology.com>
13. <http://www.saqa.org.za>
14. <http://www.apia.net.a>
15. <http://www.api-ep.api.org>

Qualifications, unit standards and institutional bodies used for benchmarking thus far:

#### New Zealand qualifications and unit standards

Employees in New Zealand fulfil a multi-functional role. They are responsible for operations, as well as maintenance in the pipeline environment. However, no specific evidence could be found for the coordinating function. In South Africa, however, these functions are divided in two main streams: an operations function and a maintenance function.

The operations function focuses on the operation of the pipeline; the main responsibility is the transportation of bulk petroleum products from one point to another. There are three different gradings in the operations environment in the South African context - each responsible for different aspects of the pipeline operations.

The coordinating officers are mainly responsible for the monitoring and operating of the pipeline network (consisting of a number of depots) via remote control computer system or by means of a verbal communication network linked to the depots. The pipeline controllers are employed at pipeline depots (intake, delivery and pump stations) and are mainly responsible for the operations of pipeline equipment, monitoring pressures and flows, equipment limitations, volume and quality control and limited minor maintenance at a specific pipeline depot. The pipeline planners are mainly responsible for the scheduling of the transport of pipeline products and constant updating of the schedule.

Other utility groups, such as the supply of electricity, and telecommunications also support the South African Pipeline Transport industry.

Internal sections, such as technical workshops, information technology, financial, human resources, projects, meter and instrumentation, etc. ensure the continuous operations of the pipeline.

The New Zealand unit standards were generated around refinery processes. In the Southern African context provision is made for the generation of unit standards and qualifications for the chemical industries, however, unit standards and qualifications for the pipeline industry need to be based on the transportation of petrochemical products.

The product types that are passed through the pipeline differ vastly as South Africa is still in the process of phasing out leaded petrol and New Zealand does not have synthetic fuels. Product type and company codes used are unique to the South African context.

In both countries statutory regulations impact on the safe operation of the pipelines although different regulations apply, e.g. Environmental, Occupational Health and Safety and National Key Point Acts.

#### Australian qualifications and unit standards

Similarities could be traced between the operations of the pipeline in South Africa and that of Australia. More unit standards for the Australian context exist. Competencies required to operate the pipeline in Australia are expressed in various unit standards. The existing Australian unit standards express the competencies required in the pipeline operations environment in little chunks. No credits are indicated in these unit standards and the levels differ vastly from those in the South African context. Similar competencies are required for the South African context, but are captured in fewer unit standards due to the SAQA requirements in terms of the number of outcomes required per unit standard, as well as the credit allocation.

As with the findings in New Zealand the following also apply to the Australian context:

- > Multi-skilled personnel
- > Statutory regulations
- > Product types
- > Refinery based processes vs. pipeline transportation
- > Gas vs. synthetic/liquid fuels

According to the available information it seems that the Australian unit standards and qualifications are more focused on the operation of gas pipelines.

The Australian Qualification Framework makes provision for different qualifications with regard to the gas industry, for example:

- > Certificate II - Gas Industry Operations
- > Certificate III - Gas Industry Operations
- > Certificate IV - Gas Industry Operations
- > Diploma - Gas Industry Operations
- > Advanced Diploma - Gas Systems

These qualifications are gas specific, excluding liquid fuels. In the South African context various qualifications on different levels of the National Qualifications Framework were identified to make provision for the competency requirements of the pipeline industry.

#### Canadian qualifications and unit standards

- > Alberta

From the information available in the document it is assumed that Alberta is involved mainly in the oil and



gas extraction and storage, which is distributed to refineries by means of a pipeline.

Employees can advance to different occupations in the industry, e.g. Utility Workers, Gaugers, Tank Farm Operators, Control Centre Operators and these employees are skilled according to the specific occupational requirements of the various companies in the industry. These employees enter into employment with a specific high school education, as well as a driver's licence. They are subjected to in-house training for progression to higher grades.

Some of the competencies of the Control Centre Operators relate to that of the South African Coordinating Officer, for example both are responsible for the following:

- > Monitor operations, including flow, pressures and leak detection
- > Provide information to depot and other personnel
- > Control pipeline network activities
- > Operate valves product separations and pumps

No specific qualifications or unit standards could be accessed.

#### Enbridge technology

Enbridge Technology is a training and technology provider, providing custom- designed training and consulting services for clients in the oil and gas industry worldwide. A list of the possible pipeline operations training modules could be accessed, covering both the operations and maintenance aspects, but the contents of these modules could not be accessed (available on a for-sale-basis only). The modules contain information on how to complete the covered tasks. The courses are designed in accordance with API-approved principles, and the API naming conventions. From the list it seems that the modules cover similar pipeline operations competencies with regard to this specific qualification. The list includes, for example:

- > Induction to fluid behaviour
- > Induction to batchtracking
- > Pump operations
- > Induction to Pipeline Control System (SCADA)
- > Pumping Gradients
- > Pump unit selection
- > Trend Analysis

From the available document, it is clear that a qualification for pipeline operators exists (Pipeline Control Centre Operations Qualification), however, there is no indication whether or not unit standards, levels or credits apply. It seems that the training came into being due to the regulatory requirements for pipeline operations.

#### United kingdom qualifications and unit standards

- > Open university

With regard to the initial research done on this web site it seems that current occupational infrastructures are diverse and fragmented and include an extensive number of jobs where competence-based standards for pipelines (oil and gas) and gas networks exist, except for level 4.

National Certificates, as well as Higher National Certificates exist. These qualifications cover various occupational areas, such as the Installation and Construction, Maintenance, Design and Project Management of pipelines (oil and gas) and gas networks. These areas of specialising also exist in South Africa, but are not related to this specific qualification.

The pipelines and networks transport highly volatile natural gas and oil in a range of pipe sizes and pressures thus similar to the South African context. These pipelines appear to be dedicated product-specific and no reference is made to multi-product pipelines, as is the case in South Africa. A high standard of safety and competence is required in terms of the operation of their pipelines, also similar to the South African context.

- > City and guilds

The site was accessed. Reference was made to oil and gas extraction, petroleum and chemical industries, but no documents were available.

#### American qualifications

#### > American petroleum institute

The web site was accessed and various training programmes exist, for example:

- > Introduction to Pipelining
- > Introduction to Oil and Gas Production and Equipment
- > Introduction to Gas Processing
- > Petroleum Industry in Canada
- > Pipeline Environment Inspection
- > Petroleum Safety Training
- > Oil Spill Containment and Recovery
- > Oil Production Operators Course
- > Oil and Gas Production Operator Basics
- > Environmental Perspectives

These courses are in existence but could not be accessed on the web in order to determine more detail. The web site is set up as an advert to training rather than access to available competencies.

However the South African petroleum industry has adopted the American Petroleum Institute (API) standards as well as American Standards of Temperature Measurement (ASTM) and these standards are accepted internationally.

#### Belgium qualifications

The Transport SETA (TETA) undertook a visit to Belgium for benchmarking purposes and was requested to investigate the possibility of the existence of unit standards and or qualifications pertaining to pipeline operations. The feedback was that no unit standards for pipeline operations had been found.

#### National benchmarking

##### South african qualifications and unit standards

##### Petrochemical qualifications and unit standards

Qualifications and unit standards related to the petrochemical industry were explored. Various qualifications and related unit standards exist on different levels of the NQF. These qualifications refer to chemical processes and thus process workers rather than to pipeline transportation and hence pipeline operators. A number of the outcomes stated in these unit standards could have been utilised, but the range statements limit the equipment used as it refers specifically to the petrochemical industry and could therefore not be utilised.

##### Water sector qualifications and unit standards

Qualifications and unit standards related to the water industry were explored and it was found that these unit standards were written for the water industry specifically. Similarities in terms of the maintenance aspects could be related to, but which has no impact on this specific qualification. The water industry pipelines are not being operated and therefore the need for operators in this industry does not exist. The commodity (water) transported is a non-hazardous liquid as opposed to the petroleum liquids (hazardous). The water pipeline is operated at very low pressures whereas the petroleum pipeline working pressure is in the excess of 8 000 kPa. For the reasons above these qualifications and unit standards are not suitable.

##### Gas network operations

The Energy SETA funded a project with regard to the generation of unit standards for the operations of gas networks. Some of these workshops were attended, but the unit standards generated were gas specific and not appropriate to this qualification. These unit standards make provision for a wide range of competencies, varying from filling and distributing gas cylinders to distribution via gas pipelines. The gas is distributed using compressed air with low pressure whereas the liquid pipeline uses centrifugal pumps with high-pressures. There is a similarity between the Metering Systems used, however, gas is measured in kilojoules and liquid is measured in litres.

##### Freight handling qualifications and unit standards

The existing Freight Handling Qualification and related unit standards were due for review. The workshops

were attended to explore the possibility of including the pipeline operations unit standards. The compilation of the qualification included core unit standards that were too generic in terms of freight handling. The added pipeline unit standards impacted on the number of credits per qualification. Another problem experienced was that the freight handling qualifications made provision for level 3 and level 5, and excluded level 4. The pipeline operations industry however expressed the need for qualifications and unit standards on varying from levels 1 to 5. The issue was discussed with SAQA and the project team was advised to generate unique pipeline operations qualifications.

In conclusion, should more information pertaining to benchmarking be required, an in depth benchmarking programme will have to be embarked on which would include visits to actual sites as the information from the web has been exhausted.

### ARTICULATION OPTIONS

The qualification lends itself to both horizontal and vertical articulation possibilities, which allow mobility and progression for the learner.

Horizontal articulation possibilities lie with other qualifications at the same level in the learning area of transport - FETC Road Transport Supervision NQF level 4, National Certificate: Pipeline operations NQF level 4.

Vertical articulation possibilities can be achieved by continuing on the learning pathway in pipeline operations, freight handling, logistics and/or transport management at level 5.

### MODERATION OPTIONS

- > Anyone moderating the assessment of a learner against this qualification must be registered as a moderator with both the relevant ETQA.
- > Moderation of assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for moderation; in terms of agreements reached on moderation between ETQAs (including professional bodies).

### CRITERIA FOR THE REGISTRATION OF ASSESSORS

- > Anyone assessing a learner against this qualification must be registered as an assessor with the relevant ETQA or an ETQA that has a relevant Memorandum of Understanding with the relevant ETQA.
- > Any institution offering learning that will enable the achievement of this qualification must be accredited as a provider with the relevant ETQA.
- > Assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment; in terms of agreements reached on assessment between ETQAs (including professional bodies).
- > 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 for this purpose.

### NOTES

N/A

### UNIT STANDARDS

(Note: A blank space after this line means that the qualification is not based on Unit Standards.)

	UNIT STANDARD ID AND TITLE	LEVEL	CREDITS	STATUS
Core	8494 Demonstrate an understanding of HIV/AIDS and its implications	Level 2	4	Reregistered
Core	13156 Devise strategies for the maintenance of a healthy lifestyle	Level 3	4	Registered
Core	14636 Follow grievance procedure	Level 3	2	Registered
Core	119307 Perform basic planning of petroleum product movement	Level 4	4	Draft - Prep for P Comment
Core	119310 Prepare for the movement of product throughout the pipeline network	Level 4	9	Draft - Prep for P Comment
Core	119327 Perform pipeline network shut-down	Level 4	12	Draft - Prep for P Comment
Core	119328 Perform and coordinate a pipeline network start-up	Level 4	33	Draft - Prep for P Comment
Core	119329 Manage and control the movement of transmixtures, off-specification product, pigs and/or spheres throughout the pipeline network	Level 4	14	Draft - Prep for P Comment

Core	119330 Monitor and implement risk control	Level 4	3	Draft - Prep for P Comment
Elective	7571 Demonstrate the ability to use electronic mail software to send and receive messages	Level 2	3	Reregistered
Elective	7573 Demonstrate ability to use the World Wide Web	Level 2	3	Reregistered
Elective	12483 Perform basic first aid	Level 2	4	Reregistered
Elective	7567 Produce and use spreadsheets for business	Level 3	5	Reregistered
Elective	119308 Manage and coordinate the movement and volumes of product through a dedicated-product pipeline network	Level 3	20	Draft - Prep for P Comment
Elective	119309 Manage and coordinate the movement and volumes of multi-product throughout the pipeline network	Level 3	30	Draft - Prep for P Comment
Elective	8035 Processing and controlling documentation	Level 4	4	Reregistered
Fundamental	8968 Accommodate audience and context needs in oral communication	Level 3	5	Reregistered
Fundamental	8969 Interpret and use information from texts	Level 3	5	Reregistered
Fundamental	8970 Write texts for a range of communicative contexts	Level 3	5	Reregistered
Fundamental	8972 Interpret a variety of literary texts	Level 3	5	Reregistered
Fundamental	7468 Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	Level 4	6	Reregistered
Fundamental	8974 Engage in sustained oral communication and evaluate spoken texts	Level 4	5	Reregistered
Fundamental	9015 Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on life related problems	Level 4	6	Reregistered
Fundamental	9016 Represent analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	Level 4	4	Reregistered
Fundamental	12153 Use the writing process to compose texts required in the business environment	Level 4	5	Registered
Fundamental	12154 Apply comprehension skills to engage oral texts in a business environment	Level 4	5	Registered
Fundamental	12155 Apply comprehension skills to engage written texts in a business environment	Level 4	5	Registered



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

1

**Manage and coordinate the movement and volumes of multi-product throughout the pipeline network**

SAQA US ID		UNIT STANDARD TITLE	
119309		Manage and coordinate the movement and volumes of multi-product throughout the pipeline network	
SGB NAME		NSB 11	PROVIDER NAME
SGB Rail and Pipeline Operations		Services	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Services	Transport, Operations and Logistics
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	30	Level 3	Regular

#### **SPECIFIC OUTCOME 1**

Calculate the movement of product volumes through the pipeline network correctly, accurately and timeously.

#### **SPECIFIC OUTCOME 2**

Communicate relevant information regarding the movements and volumes of multi-product throughout the pipeline network to all relevant role players.

#### **SPECIFIC OUTCOME 3**

Use company-specific systems/software to coordinate and control the movement of specific product volumes according to the operations notices and company-specific operations procedures, policies and instructions.

#### **SPECIFIC OUTCOME 4**

Safely and efficiently manage, coordinate and accurately control the volumes, intakes, deliveries, losses and gains of the product throughout the pipeline network.





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

2

**Manage and coordinate the movement and volumes of product through a dedicated-product pipeline network**

SAQA US ID		UNIT STANDARD TITLE	
119308		Manage and coordinate the movement and volumes of product through a dedicated-product pipeline network	
SGB NAME		NSB 11	PROVIDER NAME
SGB Rail and Pipeline Operations		Services	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Services	Transport, Operations and Logistics
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 3	Regular

#### **SPECIFIC OUTCOME 1**

Calculate the movement of product volumes through the pipeline network correctly, accurately and timeously.

#### **SPECIFIC OUTCOME 2**

Communicate relevant information regarding the product movement and volumes throughout the pipeline network with all relevant role players.

#### **SPECIFIC OUTCOME 3**

Use company-specific systems/software to co-ordinate and control the movement of specific product volumes according to Operations notices and company-specific operations procedures, policies and instructions.

#### **SPECIFIC OUTCOME 4**

Safely and efficiently manage, coordinate and accurately control the volumes, intakes, deliveries, losses and gains of the product throughout the pipeline network.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

3

**Manage and control the movement of transmixtures, off-specification product, pigs and/or spheres throughout the pipeline network**

SAQA US ID	UNIT STANDARD TITLE		
119329	Manage and control the movement of transmixtures, off-specification product, pigs and/or spheres throughout the pipeline network		
SGB NAME	NSB 11	PROVIDER NAME	
SGB Rail and Pipeline Operations	Services		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Services	Transport, Operations and Logistics	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	14	Level 4	Regular

#### **SPECIFIC OUTCOME 1**

Communicate with all relevant role players regarding movement of transmixtures, off-specification product and pigs and/or spheres in the pipeline network in accordance with company-specific operations policies, procedures and instructions.

#### **SPECIFIC OUTCOME 2**

Prepare the station for the handling of transmixture or off-specification product, launching or receiving of pigs and/or spheres in the pipeline network.

#### **SPECIFIC OUTCOME 3**

Calculate the movement of transmixtures/off-specification products or pigs and/or spheres through the pipeline network.

#### **SPECIFIC OUTCOME 4**

Launch/receive pigs and/or spheres and monitor transmixtures remotely.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

4

## Monitor and implement risk control

SAQA US ID	UNIT STANDARD TITLE		
119330	Monitor and implement risk control		
SGB NAME	NSB 11	PROVIDER NAME	
SGB Rail and Pipeline Operations	Services		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Services	Transport, Operations and Logistics	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 4	Regular

**SPECIFIC OUTCOME 1**

Apply and communicate company and legislative regulations pertaining to the security status of the pipeline network.

**SPECIFIC OUTCOME 2**

Apply and enforce company and legislative regulations pertaining to risk status of pipeline network.

Apply and enforce company and legislative regulations pertaining to risk status of pipeline network.

Apply and enforce company and legislative.

**SPECIFIC OUTCOME 3**

Monitor and control fire fighting risks.

**SPECIFIC OUTCOME 4**

Track the helicopter movement over the pipeline servitude.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

5

#### Perform and coordinate a pipeline network start-up

SAQA US ID	UNIT STANDARD TITLE		
119328	Perform and coordinate a pipeline network start-up		
SGB NAME	NSB 11	PROVIDER NAME	
SGB Rail and Pipeline Operations	Services		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Services	Transport, Operations and Logistics	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	33	Level 4	Regular

#### **SPECIFIC OUTCOME 1**

Perform the start-up and operation procedure.

#### **SPECIFIC OUTCOME 2**

Communicate relevant information regarding the start-up status of product movement in the pipeline network to all relevant role players.

#### **SPECIFIC OUTCOME 3**

Deal with sub-standard conditions and implement the contingency plans related to the start-up of the pipeline network.

#### **SPECIFIC OUTCOME 4**

Monitor and co-ordinate the initial performance of the pipeline network and product movement.

#### **SPECIFIC OUTCOME 5**

Complete all documentation, evaluate and react on information related to the start-up of the pipeline.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

6

## Perform basic planning of petroleum product movement

SAQA US ID	UNIT STANDARD TITLE		
119307	Perform basic planning of petroleum product movement		
SGB NAME		NSB 11	PROVIDER NAME
SGB Rail and Pipeline Operations		Services	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Services	Transport, Operations and Logistics
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	Level 4	Regular

**SPECIFIC OUTCOME 1**

Communicate relevant information regarding changes of product movements through the pipeline network with all relevant role players.

**SPECIFIC OUTCOME 2**

Identify the need for the adjustment of product movement.

**SPECIFIC OUTCOME 3**

Distribute the client's product volumes and calculate changes to the intake and/or delivery times correctly, accurately and timeously.

**SPECIFIC OUTCOME 4**

Capture the re-scheduled product volumes and times timeously and correctly on relevant documentation.





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

7

#### Perform pipeline network shut-down

SAQA US ID		UNIT STANDARD TITLE	
119327		Perform pipeline network shut-down	
SGB NAME		NSB 11	PROVIDER NAME
SGB Rail and Pipeline Operations		Services	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Services	Transport, Operations and Logistics
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 4	Regular

#### **SPECIFIC OUTCOME 1**

Communicate relevant information regarding the shut-down of product movement(s) of the pipeline route in the pipeline network to all relevant role players.

#### **SPECIFIC OUTCOME 2**

Prepare for the pipeline shut-down to ensure correct pressures and/or required volume displacements.

#### **SPECIFIC OUTCOME 3**

Perform pipeline shut-down.

#### **SPECIFIC OUTCOME 4**

Deal with substandard conditions and perform an unplanned shut-down.

#### **SPECIFIC OUTCOME 5**

Extract information on applicable information system relevant to the shut down of pipeline equipment.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

8

Prepare for the movement of product throughout the pipeline network

SAQA US ID	UNIT STANDARD TITLE		
119310	Prepare for the movement of product throughout the pipeline network		
SGB NAME		NSB 11	PROVIDER NAME
SGB Rail and Pipeline Operations		Services	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Services	Transport, Operations and Logistics
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	9	Level 4	Regular

**SPECIFIC OUTCOME 1**

Communicate all relevant information as to the status of the pipeline network regarding the preparation for product movement to all role players.

**SPECIFIC OUTCOME 2**

Use company operating systems and software to control pipeline equipment and routes.

**SPECIFIC OUTCOME 3**

Extract, capture, verify, adjust, calculate and record data from applicable information systems onto applicable documents relevant to the preparation of product movement.

**SPECIFIC OUTCOME 4**

Perform remote depot(s) and route check for product movement.

**SPECIFIC OUTCOME 5**

Prepare pipeline equipment and line up the product movement route.

**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

**Manufacturing and Assembly Processes**

Registered by NSB 06, Manufacturing, Engineering and Technology, publishes the following unit standard for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the unit standard. The unit standard can be accessed via the SAQA web-site at [www.saga.org.za](http://www.saga.org.za). Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, Hatfield Forum West, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the unit standards should reach SAQA at the address ***below and no later than 18 April 2005***. All correspondence should be marked **Standards Setting – SGB for Manufacturing and Assembly Processes** and addressed to

The Director: Standards Setting and Development  
SAQA

*Attention: Mr. E. Brown*

Postnet Suite 248

Private Bag X06

Waterkloof

0145

or faxed to 012 – 431-5144

e-mail: [ebrown@saga.co.za](mailto:ebrown@saga.co.za)

  
**DUGMORE MPHUTHING**

**ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT**



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

1

Recognise and explain the purpose of various input, transmission and storage devices, and understand how to care for them

SAQA US ID	UNIT STANDARD TITLE		
13197	Recognise and explain the purpose of various input, transmission and storage devices, and understand how to care for them		
SGB NAME	NSB 06	PROVIDER NAME	
SGB Manufacturing and Assembly Processes	Manufacturing, Engineering and Technology		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 1	Regular

**SPECIFIC OUTCOME 1**

Recognise various data input, transmission and storage devices and explain their purpose

**SPECIFIC OUTCOME 2**

Describe how to handle and care for ICT devices

**SPECIFIC OUTCOME 3**

Describe the purpose of the data captured



### **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

#### **Chemical Industries**

Registered by NSB 06, Manufacturing, Engineering and Technology, 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 and unit standard. The qualification and unit standard can be accessed via the SAQA web-site at [www.saga.org.za](http://www.saga.org.za). Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, Hatfield Forum West, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the unit standards should reach SAQA at the address *below and no later than 18 April 2005*. All correspondence should be marked **Standards Setting – SGB for Chemical Industries** and addressed to

The Director: Standards Setting and Development  
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**ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT**





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### QUALIFICATION:

#### National Certificate: Operation of Mobile Explosives Manufacturing Units

SAQA QUAL ID	QUALIFICATION TITLE		
49555	National Certificate: Operation of Mobile Explosives Manufacturing Units		
SGB NAME	NSB 06	PROVIDER NAME	
Chemical Industries SGB	Manufacturing, Engineering and Technology		
QUAL TYPE	FIELD	SUBFIELD	
National Certificate	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	120	Level 3	Regular-Unit Stds Based

#### PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose of this qualification

This qualification is used to recognise the competence of people to mix and place bulk explosives through the use of MMUs.

It is achieved through the following exit level outcomes:

- > Apply knowledge skills and values in the manufacturing and placement of bulk explosives.
- > Manufacture and placement of bulk explosives by operating a MMU.
- > Evaluate the effectiveness of work done and the results arising from manufacturing and placement of bulk explosives.

Compliance with these exit level outcomes ensures that the placement of bulk explosives is done in compliance with the relevant legislation, regulations and instructions. It also promotes social development, the minimization of environmental damage, and economic transformation by enabling effective open cast mining and use of bulk explosives in similar industries where rock has to be broken.

Rationale of the qualification

In keeping with their commitment to excellence, manufacturers of explosive materials assume the responsibility for the safe, environmentally sensitive and efficient placement of mixed bulk explosive materials at clients' sites. This work is critical to surface mining and quarrying operations. The knowledge, skills and values needed to carryout this work is considered worthy of national recognition through a national qualification.

The qualification addresses the knowledge, skills and values necessary for the mixing and placing of the bulk explosive products, liaison with the clients, operating, driving and first line maintaining of the Mobile Explosives Manufacturing Unit (MMU), together with quality and related matters. This learning is underpinned by appropriate Mathematical Literacy and Science as applied in the context of explosives and their use.

An individual who qualifies in terms of this qualification will have the ability to carryout bulk explosives placement. This includes the ability to work independently, make judgements and decisions.

The qualification is designed for progression from an entry level in the bulk explosives industry at bulk explosives manufacturing factories or bulk explosives distribution depots. Individuals who have the required driving licence for an MMU and/or competence in open cast mining are also well positioned to register for this qualification.

Options for progression from this qualification are into supervision of distribution and placement or depot supervision. In addition, the qualification can lead to technical advising and technical marketing of explosives.

### **RECOGNIZE PREVIOUS LEARNING?**

Y

### **LEARNING ASSUMED TO BE IN PLACE**

Learners wishing to register for programmes leading to this qualification are expected to have achieved NQF Level 2 with competence in the following areas:

- > Mathematics or Mathematical Literacy, Communications and Science (applied process chemistry and related technology)
- > Basic safety

The level and extent of the above learning assumed to be in place should be equivalent to the relevant unit standards used by the chemical industry.

### **Recognition of prior learning**

Recognition of prior learning must be carried out in accordance with the policy and rules specified and used by the ETQA responsible for evaluation of people seeking RPL. This may include a few or all the competencies described in the relevant unit standards. When RPL is recognised the demonstration of competence at, at least one production site is required.

### **QUALIFICATION RULES**

N/A

### **EXIT LEVEL OUTCOMES**

1. Apply knowledge, skills and values in the manufacturing and placement of bulk explosives.
2. Manufacture and place bulk explosives by operating a MMU.
3. Evaluate the effectiveness of work done and the results arising from the manufacturing operations.

### **ASSOCIATED ASSESSMENT CRITERIA**

1.
  - > Knowledge of bulk explosives, including understanding of their composition, in the manufacture and placement of bulk explosives is applied to achieve the desired results.
  - > A quality system, as used in bulk explosives placement, is complied with to ensure that the desired results are achieved.
2.
  - > Instructions are interpreted prior to placing explosives.
  - > The site is assessed prior to placing explosives.
  - > A MMU is used to mix and place explosives in accordance with instructions.
  - > Quality checks are conducted to ensure explosive material is correctly placed.
3.
  - > The documentation required for legal, technical and other purposes is completed in accordance with instructions.
  - > The manufacturing and placement activities carried out are compared with instructions and relevant explosives technology.

### **Integrated Assessment**

> The applied competence (practical, foundational and reflexive competencies) of this qualification will be achieved when a candidate is able to carryout the activities required to place explosives in accordance with instructions. This is done by operating a MMU, understanding related concepts, applying the relevant technology and evaluating the results of the work done.

> Appropriate methods and tools must be used to assess practical, foundational and reflexive competence of the learner in all the exit level outcomes listed above, as well as to determine a learner's ability to solve problems where the solutions are not always obvious, using known technology (including drawing on experience and using instruction manuals). The assessment requires that the work be carried out as part of the greater 'mining/quarrying or construction' team at a client's site. This requires that the candidate organizes him/herself, applies science and understands the implications of actions and reactions in the workplace as a set of related systems. Such a formative assessment process will determine development of

the whole person, and the integration of applied knowledge and skills and values.

> Assessors should develop, conduct, and ensure integration of assessment by making use of a range of formative and summative assessment methods against the unit standards that form part of the qualification. Combinations of applied, foundational and reflective competencies, including critical cross-field outcomes, should be assessed wherever possible.

> Assessment must include workplace/site-based practical work, ensuring that quality of work is done. Minimization of wastage must be emphasized and the effective operation and maintenance of the MMU also requires attention in the assessment process.

### **INTERNATIONAL COMPARABILITY**

> No qualification specific to the Bulk Explosives Industry was found in other qualifications frameworks. The local industry was not able to source equivalent educational qualifications from international associates.

> However, this qualification is of a higher standard than the United Kingdom's NVQF qualification for the transport of explosives in that the application of technology required is of a more complex level. More advanced machine operating skills also form part of the qualification.

> No equivalent qualification or unit standards were found in the qualifications frameworks of New Zealand, Australia, Scotland, Ireland, the United Kingdom or American Curriculum and Assessment Authority.

> The experts involved in this qualification further commented that this is probably due to the lack of bulk explosive manufacture and placement practiced in countries that have well developed National Qualifications Frameworks. They also commented that South African programmes related to this qualification are used in SADEC.

### **ARTICULATION OPTIONS**

This qualification articulates horizontally to qualifications relating explosive materials or component manufacture. Qualifications used for horizontal articulation include:

> National Certificate in Explosives Manufacturing Operations NQF Level 3

Articulation to other careers and associated qualifications relating to the manufacture of other chemical substances or manufacturing activities are possible. This qualification enables articulation into various road transport learning areas such as the transport of hazardous materials.

Vertical articulation is possible in the explosives industry using the following qualifications:

> FETC Supervision of Explosives Placement

### **MODERATION OPTIONS**

Moderators should ensure that assessment is valid, consistent and integrated into work or learning, and that there is sufficient and authenticated evidence of learner competence against the whole qualification. This checking should include confirmation of competence in a production context, over a period of time that is adequate to ensure customer and employer satisfaction with learners who are declared competent.

> Anyone moderating the assessment of learners against this qualification must be registered as a moderator with the relevant ETQA.

> Any institution offering learning that will enable the achievement of this qualification must be accredited or recognized as a provider with the relevant ETQA. This accreditation must include both technical and operational/production learning and assessment.

> Assessment and moderation will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment and moderation.

> Moderation should encompass achievement of the competence described both in individual unit standards, exit level outcomes as well as the integrated competence described in the qualification.

> 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 THE REGISTRATION OF ASSESSORS**

In order to assess this qualification, the assessor needs:

- > Well developed interpersonal skills, personal credibility, and a record of ethical behaviour
- > Registration with the relevant Education, Training and Development Practitioners' ETQA as a generic assessor.
- > Competence against the unit standard 'Plan and conduct assessment of learning outcomes'.
- > Documentary proof or 'peer/expert' recognition of educational qualification, practical training undergone, and/or experience gained at an appropriate level of bulk explosives manufacture and placement. This must meet the relevant ETQA policies and guidelines.

**NOTES**

N/A

**UNIT STANDARDS***(Note: A blank space after this line means that the qualification is not based on Unit Standards.)*

	UNIT STANDARD ID AND TITLE	LEVEL	CREDITS	STATUS
Core	14783 Conform to and apply legislation and operational instructions in chemical processing	Level 3	4	Registered
Core	14801 Solve operating problems using process chemistry and related technology	Level 3	10	Registered
Core	119354 Manufacture and place explosive material using a mobile manufacturing unit	Level 3	20	Draft - Prep for P Comment
Core	10953 Operate a rigid vehicle	Level 4	32	Reregistered
Elective	14080 Describe routes and locations and draw simple maps	Below Level 1	1	Registered
Elective	13221 Perform routine maintenance	Level 2	8	Registered
Elective	14784 Apply sampling theory and practice in the chemical industry	Level 2	5	Registered
Elective	7995 Communicating and conducting interpersonal relations in industry	Level 3	10	Reregistered
Elective	8000 Applying basic business principles	Level 3	9	Reregistered
Elective	9913 Perform first line maintenance	Level 3	14	Registered
Elective	11913 Obtain and communicate transport operational information	Level 3	7	Reregistered
Elective	113847 Foster and maintain customer relations	Level 3	10	Registered
Fundamental	7456 Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	Level 3	5	Reregistered
Fundamental	8968 Accommodate audience and context needs in oral communication	Level 3	5	Reregistered
Fundamental	8969 Interpret and use information from texts	Level 3	5	Reregistered
Fundamental	8970 Write texts for a range of communicative contexts	Level 3	5	Reregistered
Fundamental	8973 Use language and communication in occupational learning programmes	Level 3	5	Reregistered
Fundamental	9010 Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	Level 3	2	Reregistered
Fundamental	9012 Investigate life and work related problems using data and probabilities	Level 3	5	Reregistered
Fundamental	9013 Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	Level 3	4	Reregistered



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

1

#### Manufacture and place explosive material using a mobile manufacturing unit

SAQA US ID		UNIT STANDARD TITLE	
119354		Manufacture and place explosive material using a mobile manufacturing unit	
SGB NAME		NSB 06	PROVIDER NAME
Chemical Industries SGB		Manufacturing, Engineering and Technology	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 3	Regular

#### **SPECIFIC OUTCOME 1**

Interpret instructions in accordance with relevant technology.

#### **SPECIFIC OUTCOME 2**

Collect and move materials to the site.

#### **SPECIFIC OUTCOME 3**

Carry-out pre-manufacturing activities.

#### **SPECIFIC OUTCOME 4**

Manufacture and place bulk explosives in accordance with best practice.

#### **SPECIFIC OUTCOME 5**

Carry-out post manufacturing activities.

#### **SPECIFIC OUTCOME 6**

Review work done.

No. 221

18 March 2005

**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

**Public Administration and Management**

Registered by NSB 03, Business, Commerce and Management Studies, 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 and unit standards. The qualification and unit standards can be accessed via the SAQA web-site at [www.saga.org.za](http://www.saga.org.za). Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, Hatfield Forum West, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the unit standards should reach SAQA at the address *below and no later than 18 April 2005*. All correspondence should be marked **Standards Setting – SGB for Public Administration and Management** and addressed to

The Director: Standards Setting and Development  
SAQA

Attention: Mr. E. Brown

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**DUGMORE MPHUTHING****ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT**





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### QUALIFICATION:

#### *National Diploma: Public Finance Management and Administration*

SAQA QUAL ID	QUALIFICATION TITLE		
49554	National Diploma: Public Finance Management and Administration		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
QUAL TYPE	FIELD	SUBFIELD	
National Diploma	Business, Commerce and Management Studies	Public Administration	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	260	Level 5	Regular-Unit Stds Based

### PURPOSE AND RATIONALE OF THE QUALIFICATION

#### Purpose:

The purpose of the NQF level 5 Public Finance and Administration qualification is to provide a structured programme for public officials that work with senior management officials so as to provide support to strategic leadership and management needed to transform all spheres of government. The need for well-qualified efficient, client-oriented public officials is therefore identified as a priority in all the three spheres of government. The National Diploma in Public Finance Management and Administration (NQF level 5) is aimed at practitioners working in the public sector. It is a qualification in a career pathway towards an accomplished public finance management and administration specialist.

The National Diploma in Public Finance and Administration consists of exit level learning outcomes covering accounting reporting, administration, auditing, budgeting, economics, information systems, business calculations, risk management and legislative framework for the public sector. The competencies covered in the unit standards encapsulate the competencies required by public officials working at the operational level.

The qualification will therefore enhance the ability of the qualifying learner as a public finance official to perform the necessary financial administration tasks expected as well as improve management abilities. In this way, the qualification enhances transferability of skills within different spheres of the public sector. At the same time, a learner will gain a firm foundation required for studies leading to qualifications registered at NQF levels 6 and 7. All these enhance transferability of skills between the private and public sector.

With regard to the implementation of public financial management and administration reforms, the qualification serves, as a basis of an effective implementation process by defining and identifying those competencies required by technical public officials. The possession of relevant knowledge, skills and attitudes by technical public officials is crucial to the implementation of public sector financial management and administration reforms. Thus, the qualification contributes to the upliftment of the South African economy in line with the aims of existing skills development legislation through enhancing of skill levels of public sector employees.

Qualifying learners could follow a career within the Public Sectors in:

- > Financial Services.
- > Administration.
- > Management.
- > Accounting.
- > Project/Public Entity Management.

**Rationale:**

The public officials in South Africa operate in a wide variety of roles within the public management structures. Often they work in diverse operating and service delivery circumstances. Therefore, they have to be widely acknowledged for their understanding and awareness of the unique characteristics and challenges they may face in the process of service delivery.

The sustainability of South Africa's democratic process and developmental governance are strongly linked to capacity building within the three spheres of government, i.e. the national, provincial and local spheres of government. It is imperative that public officials receive an up-to-date relevant and respected public financial management and administration qualification that recognises that the knowledge and skills which South Africa's public sector officials require have been satisfactorily obtained. In order to do that most effectively, public officials need to have excellent awareness and understanding of the changing needs of today's public service delivery systems and to identify very clearly the highly relevant expertise which these officials bring to their roles in the public sector.

The exit level learning outcomes highlight many of the public finance management and administration skills required within the public sector. Such skills and knowledge are geared towards enabling public officials in all spheres of government to operate effectively and successfully in a demanding environment. Therefore, exit level outcomes and related assessment criteria are outlined for the areas of competence, which mark out public financial management as key and highly influential in public sector service delivery.

It is understandable that most public officials will occupy specialised positions that do not require all of the contributions outlined in this qualification. In that sense, some of the exit level outcomes are shown as electives that address specialised knowledge and skills.

The National Diploma in Public Finance Management and Administration is a specialised Qualification which offers administrative, managerial and financial knowledge and skills to learners who:

- > Have attained the National Certificate in Business Administration: Level 4 or any related financial, accounting, or public administration qualifications and wish to continue on a path of life-long learning within Public Finance Management and Administration or related qualifications.
- > Have worked in Public Administration, Accounting, Public Financial Management, Municipal Financial Administration/Management for many years, but have no formal Qualifications in their area of expertise.
- > Wish to extend their range of skills and knowledge of Public Finance Management and Administration so that they can become knowledge workers.
- > Are contracted in a learnership agreement.
- > Have recently taken up a position in Public Finance Management and Administration.
- > Have not yet acquired the skills and competencies required for learning in Public Finance Management and Administration at NQF level 6.

The skills, knowledge, values and attitudes reflected in the Qualification are building blocks that will be developed further in a related NQF Level 6. The intention is:

- > To promote the development of knowledge and skills that are required for the efficient performance of Public Finance Management and Administration functions.
- > To release the potential of people.

The National Diploma in Public Finance Management and Administration: Level 5 should produce knowledgeable, multi-skilled workers who are able to contribute to improved productivity and efficiency within the public sector. It should provide the means for current workers to receive recognition of prior learning, to upgrade their skills and achieve a nationally recognised qualification. It should also assist new entrants to the public sector.

It will ensure that the quality of education and training in the public sector is enhanced and of a world-class standard.

The National Diploma at NQF Level 5 allows the learner to work towards a nationally recognised qualification. The qualification will allow both those in formal education and those already employed in organisations in the Public Finance Management and Administration field access to a Qualification that can be used as a benchmark to gauge their competence against local and international standards.

**RECOGNIZE PREVIOUS LEARNING?**

Y

**LEARNING ASSUMED TO BE IN PLACE**

Learners should be competent in:

- > Communication at NQF Level 4.
- > Mathematics or Mathematical Literacy at NQF level 4.
- > Computer Literacy at NQF Level 3.

Recognition of prior learning:

The structure of this Unit Standard based Qualification makes the Recognition of Prior Learning possible. Learner and Assessor will jointly decide on methods to determine prior learning and competence in the knowledge, skills, values and attitudes implicit in the Qualification and the associated Unit Standards. Recognition of Prior Learning will be done by means of an Integrated Assessment as mentioned in the previous paragraph.

This Recognition of Prior Learning may allow for:

- > Accelerated access to further learning at this or higher levels on the NQF.
- > Gaining of credits towards a Unit Standard in this Qualification.
- > Obtaining this Qualification in whole or in part.

All recognition of Prior Learning is subject to quality assurance by the relevant ETQA or an ETQA that has a Memorandum of Understanding with the relevant ETQA.

**QUALIFICATION RULES**

Level, credits and learning components assigned to the qualification:

The Diploma is made up of a planned combination of learning outcomes that have a defined purpose and will provide qualifying learners with applied competence and a basis for further training.

The qualification is made up of Unit Standards that are classified as Fundamental, Core and Elective. A minimum of 260 credits is required to complete the qualification.

In this qualification the credits are allocated as follows:

Fundamental: 73 credits - 28%  
Core: 162 credits - 63%  
Electives: 25 credits - 10%  
Total: 260 credits - 100%

Motivation for number of credits assigned to fundamental, core and elective:

> Fundamental Component:

Unit Standards to the value of seventy-three credits are allocated to the subject areas of communication, ethics, statistics, mathematics, economics and self-development.

Ten credits have been assigned to the communications aspect of the fundamental component which focuses on communication skills required to effectively fulfil public finance management and administration functions within the public sector.

Fifteen credits in Mathematical Literacy have also been included in the Fundamental Component, focusing on the mathematics required to effectively work within the public finance management and administration sector.

Eight credits have been allocated to ethics and professional codes of conduct required in the public sector.

It is also viewed that self-development and awareness are an integral part of the effective public finance management and administration function. For this reason, ten credits have been allocated to this learning area, covering all aspects of self-development, ranging from awareness of self and interactions with others, and developing a career plan within the public sector.

Economic principles and statistics are viewed as very important aspects of this qualification and therefore

forms integral platforms to the learner effectively completing the fundamental component of this qualification. Thirty credits each have been allocated to these learning areas.

All the Unit Standards are compulsory.

> Core Component:

One hundred and sixty two credits have been allocated to Unit Standards in the Core Component of this Qualification. This is to ensure that the Qualification has a strong Public Finance Management and Administration focuses. The Unit Standards classified as Core describe Public Finance Management and Administration knowledge and skills that are generic to various public sector contexts where Finance, Management and Administrative functions of one kind or another are executed. They provide an opportunity to develop knowledge of Public Sector Finance Management and Administration through research, formal learning and workplace practice and/or simulated situations. The Unit Standards encourage application of knowledge and skills in real situations. The Core Unit Standards provide the basic knowledge and skills that all workers need to know about Public Finance Management and Administration.

All Unit standards are compulsory.

> Elective Component:

There are Unit Standards totalling Ninety-five credits in this Component. These Unit Standards lead on from the core component in focusing on learning areas to pertinent to Public Finance Management and Administration and will enable learners to gain specialist knowledge and skills, which are particularly relevant, or of interest to the learner or a particular learning context. Learners are required to select Electives that add up to at least twenty-five credits. While learners may choose any of the Electives to make up the 25 credits, it is preferable that the learner chooses the complete set of Standards covering each specialist area even if this should mean that the minimum number of credits is exceeded. The learner may also select other Unit Standards at the level of the Qualification, not listed in this Qualification, but which would enhance the learner's work performance or employability, or which are of particular interest to the learner, with the approval of the relevant ETQA.

#### **EXIT LEVEL OUTCOMES**

1. Conduct and apply mathematical analyses relating to economics and finance.
2. Discuss the selected legislative regulatory framework governing the public sector management and administration environment.
3. Apply principles of information systems to public finance and administration.
4. Manage and develop oneself in the public sector work environment.
5. Apply economics principles to finance and management decisions.
6. Apply knowledge of ethical principles and standards of professional conduct in public sector administration.
7. Apply communication principles in the coordination of selected public sector communication programs.
8. Apply accounting principles and procedures in the preparation of reports for decision-making.
9. Apply the principles of budgeting within a municipality.
10. Apply cost management information systems in the preparation of management reports.
11. Apply principles, regulations and legislation underlying supply chain management in the public sector.
12. Conduct and apply statistical analyses required to make informed public sector finance decisions.
13. Apply selected GRAP statements to the periodic accounting reporting process.
14. Prepare and interpret tax reports and returns in accordance with South Africa's tax revenue law.
15. Conduct auditing planning and implementation in a South African municipality.



16. Analyse and evaluate the impact of macroeconomic data on the operating environment of the public sector.
17. Manage the development and performance of human capital in the public sector.
18. Apply operations research principles and tools in the management of project activities and resources.
19. Participate in the planning and implementation of disaster management systems.
20. Conduct working capital management activities in accordance with sound policy.
21. Apply principles of computerised systems to manage data and reports relevant to the public sector administration.
22. Apply principles of risk management to manage and report risk situations.
23. Apply the legislation governing the establishment and management of public entities.
24. Plan and implement public-private partnerships for municipal service delivery.

#### **ASSOCIATED ASSESSMENT CRITERIA**

1:

- > Calculations relating to time value of money are performed for different financial transactions.
- > The usefulness of linear programming is demonstrated in selected resource allocation problems.
- > Graphical representations and set theory are used in the analysis of finance and economics related problems.
- > Economic relationships are understood through finding solutions aided by graphical representation techniques.

2:

- > The constitution of SA is understood and interpreted in relation to public sector financial management.
- > The Public Finance Management Act and Municipal Finance Management Act are applied appropriately to different financial problems.
- > The regulations governing Division of Revenue among different spheres of government are applied to simulated and real financial situation.
- > The fundamental aspects of the organisation and operation of SA's legal system are identified and explained.
- > Essential elements required to establish valid contract are identified and explained.
- > Terms and conditions for different levels of performance to discharge contract obligations are identified and explained.
- > Forms of contract breaches and related remedies are identified and discussed.
- > General employment contracts are understood with reference to SA's law of employment.

3:

- > Economic forces that have created an environment that foster e-commerce and e-governance.
- > Features and opportunities of commonly used IT resources are explained.
- > Relative merits of different hardware and applications architectures are evaluated.
- > The concept of value chain analysis is used to identify opportunities for e-governance and e-commerce.
- > The different ways the web is used to communicate with different stakeholders and public sector website requirements in line with the PFMA are understood and applied public administration.
- > Functions of e-commerce and e-governance software are understood in the context of improved service delivery.
- > Threats (and related preventive measures) to e-commerce and e-governance systems are described.
- > Internet and other web-based IT resources are described and used to enhance public finance and administration.
- > The importance of an information system in the management planning, decision-making, and control is discussed.
- > The value and cost of information is described and evaluated.

4:

- > Show knowledge and understanding of the nature of personality for purposes of applying such knowledge toward dealing with the conduct of colleagues in the public sector context.
- > Apply personality theories towards dealing with the behaviour of individuals and groups in the public sector

context.

- > With reference to public sector work-related issues, conduct personality assessment with the view of dealing with the behaviour of individuals and groups.
- > The knowledge of psychological well-being, and work adjustment and maladjustment is applied in dealing with colleagues at the workplace.
- > Mentoring and special problems associated with dual career couples and women are understood.
- > Causes of stress and approaches for managing stress are provided and discussed.
- > The learner's personal development plan is developed and ways of realising it demonstrated.
- > Early career dilemmas and experiences are explained with reference to their influence on adjustment to the workplace and later career success.
- > Management of working relationships are understood in the context of public sector management processes and dynamics.

5:

- > Concepts used to distinguish microeconomics and macro-economic are explained and clearly illustrated.
- > Central economic problems and characteristics of different kinds of goods are discussed with reference to SA economy.
- > The interdependencies among different sectors of the economy, markets and economic flows are illustrated.
- > The various criteria used to measure the performance of the economy are explained with reference to selected macroeconomic objectives.
- > Basic concepts of economics to macro- and micro-economic activities of South Africa's economy are applied.
- > Economic theory is illustrated and presented in words, numbers, equations, and in graphs.
- > Economic principles that under pinning supply and demand relationships are utilised to analyse developments in different markets.
- > Individual consumer's choice between consumer goods and services is analysed in order to derive individual demand curve using utility theory.
- > Basic production and cost concepts are applied in the analysis of the decisions of economic agents.

6:

- > The role of a membership to a professional certifying body is understood.
- > Guidelines that advocate for appropriate practices for specific financial administration are identified.
- > Standards of ethical conduct for practitioners of public financial management are explained.
- > Recognise ethical problems within the context of general ethical theories and specific principles.
- > Code of conduct of the public service, of the profession and those required in terms of the legislation are understood and explained.
- > Requirements of the Disciplinary and Grievance Code are understood and applied at the workplace.

7:

- > Oral and written communication skills are effectively used in interpersonal and organisational communication.
- > Reading skills are effectively used to understand, interpret and act upon different communication strategies.
- > A model of communication process is described and used to coordinate selected communication programs in the public sector.
- > Barriers to interpersonal communication are explained and ways of overcoming such barriers explained.
- > Writing skills are effectively used to generate reports, official memorandums, notices, etc.
- > The impact of advanced information technology on interpersonal relations and other organisational activities is understood.
- > Communication tools are selected and used to manage internal and external forces of changes.

8:

- > The importance of accounting in the public sector is explained.
- > The process that influences the development of accounting standards and practices including the standard chart of accounts, are explained.
- > Different accounting records needed to process accounting entries are set out.
- > The importance of preparing in-year reports to assist decision-makers is explained.
- > Actual performance against budget information is prepared for decision-makers.
- > End of period accounting procedures are set out to prepare financial statements.
- > Procedures used to exercise control over cash transactions are applied, including internal controls over cash transactions, voucher system, bank reconciliation and operation of a petty cash fund.
- > Procedures for recording and reporting accounts receivable are applied, including revenue received, documents relating to credit transactions, debtor administration system.



> Procedures for recording and reporting liabilities common to public sector reporting entities are applied, including creditor administration system, payments, calculation of interest.

9:

- > The steps in the budget process are identified and their rationale explained.
- > The interdependencies among strategic planning, medium-term revenue and expenditure framework, and annual budgets are described and demonstrated.
- > Issues that public sector managers have to deal with in designing and implementing a financial control system are described.
- > The relative importance of budgets is compared to other control methods used in the public sector financial management.
- > Potential functional and dysfunctional aspects of budgets are explained with reference to legislative instruments governing public sector financial management.
- > The qualitative aspects of budgeting, measurement of outputs and the building of infrastructure are explained.
- > Budgets are prepared in a manner that complies with sound legislative and management principles.

10:

- > Elements of costing are identified and applied in the assessment of cost variability.
- > Difficulties associated with categorisation of costs by behaviour in a public sector organisation are explained.
- > Knowledge of cost variability is applied to incremental analysis in decision-making problems.
- > Different costing approaches are used to measure the performance of different segments.
- > Standards costing and related variance analyses done to prepare reports needed to manage public by exception.
- > Overhead costs associated with public service delivery are allocated, apportioned and absorbed to measure cost recovery levels.
- > A range of costing systems and reports are considered the compilation of management reports.

11:

- > The elements of a world class supply chain management system are identified and described.
- > The evolution and importance of a supply chain management systems in the public sector are described.
- > The spanning functional boundaries of supply chain management in South Africa's public sector are understood and described.
- > Processes followed in making decisions about quality and quantity, supplier selection, pricing decisions and timing of purchases are understood and applied.
- > Different inventory systems are distinguished to enhance management of inventories in the public sector.
- > Procure bulk services and goods using established supply chain management regulations.
- > The principles underlying e-commerce are identified, understood and applied to enhance efficiency and effectiveness of supply chain at tactical level.
- > Guidelines and principles that enables the operation of a sound supply chain management in the public sector are described.
- > Contract and relationship management techniques, tools, and philosophies that enable collaboration in the supply chain management are applied in fostering synergistic opportunities supply chain management.

12:

- > Statistical techniques for summarising and analysing data are identified and applied to selected public sector decision situations.
- > Probability concepts and distributions are explained and demonstrated in decision situations involving risk and uncertainty.
- > Time series are analysed to understand, describe, control, and predict the underlying process that vary over time and which require forecasting.
- > Regression analyses are performed and demonstrated in decision situation that required forecasting.
- > Random sampling techniques are applied to situation that required decisions based on sample information.

13:

- > Overall objectives of public sector financial reporting, the specific information needs of stakeholders, and the general information needs of others are identified and described.
- > The need for a conceptual framework and for standards of financial reporting for the public sector organizations is clearly understood.
- > The elements of public sector financial statements related to measurement of financial position and performance are identified and applied in the preparation and presentation of reports.
- > Define and analyse the qualitative characteristics of financial information are analysed and applied to the presentation and measurement issues to enhance the decision-usefulness of financial reporting.

- > Recognition and measurement criteria are understood and applied them to transactions and events for incorporation of financial statements.
- > Selected statutory disclosure requirements are identified.
- > Analyse the financial position, performance and cash-flow in financial statements.

14:

- > Reports and returns for outside agencies are appropriately prepared.
- > The system of self assessment is explained in relation to VAT returns and individual tax returns.
- > Compile financial management reports.
- > Tax classification and rationale for taxation are explained with reference to economic principles.
- > Computerised payroll transactions are processed and relevant statutory returns in accordance with statutes.
- > Rules imposed upon employers in relation to employee taxation are identified and applied in the preparation of payroll.

15:

- > An internal audit plan is reviewed and its importance and relevance explained with reference to risk assessment and views of the audit committee.
- > The role of audit committee in the approval of an audit plan is explained.
- > The evidence of the execution of the internal audit plan is monitored and explained.
- > The contents of a report to management on areas of concern and weakness within the accounting system are explained.
- > Internal audit function is described to show how it provides assurance regarding adequacy of that management process and to identify significant risks.

16:

- > The mechanisms of a market economy and the role of government within it are identified and explained.
- > The economic environment within which government institutions and businesses operate understood and described.
- > The economic factors which influence the behaviour and performance of selected economic agents are identified and applied.
- > Economic analyses that informs and guides the advice given to decision-makers are prepared on the basis of official statistical data.

17:

- > The importance of human resource management function is explained.
- > Labour related regulations and principles are applied in the planning and recruitment of employees.
- > Public service training and management development policies are explained and applied.
- > Performance appraisal approaches are discussed and managed to improve employee performance.
- > The link between human resource management and integrated development plans are explained.
- > People management practices in South Africa are understood with specific reference existing labour law (Basic conditions of Employment Act, Labour Relations Act, Employment Equity Act).

18:

- > Project evaluation and review techniques are applied to simulated situation.
- > Selected statistical and project management software are used to enhance project management.
- > Operational research tools are applied in solving transportation, inventory and other service delivery problems.
- > Understand the project management life cycle.
- > Understand the scheduling of a project.
- > Understand the costing of projects.
- > Understand and utilise the project management tools.
- > Understand team dynamics in project planning and implementation.

19:

- > Plans developed to mitigate against known disasters are understood and implemented.
- > Different role players in disaster management are known and used to enhance the management of selected disasters.
- > Appropriate communication instruments are selected are applied in the management of disasters.
- > Contents of specific disaster recovery plans are known and used to achieve set objectives.
- > Possible early warning systems for different disasters are identified.
- > The principles underpinning standards on counter disaster strategies for records and record keeping in the public sector are identified and discussed to inform government readiness.
- > Issues and processes for government readiness to prepare communities for disasters are identified and

discussed.

- > Contingency plans are understood with reference alleviation of negative effects of disasters.

20:

- > Working capital policy and management are explained with reference to the elements of working capital commonly found in the public sector.
- > Liquidity and different forms of solvency are understood in the context of certain policies and a working management approach can be recommended by legislation.
- > The nature of accounts payable and certain recommendations relating thereto can be made.
- > Provisioning management techniques and practices are used with reference to various inventory items.
- > Selected financial ratios are used to inform working capital decisions.
- > External requisitioning procedures for inventory items (assets) are applied.
- > Economic inventory levels and delivery periods are determined using quantitative tools.
- > Manage and participate in the stocktaking process and determine discrepancies.
- > Budgets for consumable inventory items are prepared and used to guide reporting of utilization of inventory items.
- > Credit management policy of the institution and credit information sources are used to enhance credit control.

21:

- > Selected computer software are used to generate information required to routine decisions.
- > Distinctions are clearly made between systems and applications software.
- > Transactions are processed using selected ERP systems.
- > Different management information systems are understood and used in the context varying information needs for the organisation.
- > Describe the basic elements of a computer-based information system.
- > Use computer applications commonly found in the public sector environment.
- > Apply advance applications of Excel spreadsheets and database tools.
- > Use MS-Project applications to manage projects.
- > Identify opportunities to use the computer as a management tool.

22:

- > The objectives, nature and evaluation of internal controls in risk management are explained.
- > The role of the governing body in the design and implementation and monitoring of risk management system.
- > Responsibilities, functions and qualities of internal auditor are explained in relation to the need to strengthen internal control system.
- > Broad categories of risk are described with reference to strategic, operational, technology and insurable risk.
- > Risk response and risk structures are explained.
- > Methods of risk assessment and prioritisation of implementation of various methods.
- > Recommendations to improve the control of operating activities and resources are understood and implemented in the context of a computerized information system.
- > Different methods of avoiding and managing risks and safeguarding the assets are identified and explained.
- > Appropriate instruments of internal control are reviewed, compared and explained.
- > Internal controls and the role they play in ensuring the effectiveness of accounting and risk management systems are explained.

23:

- > The legislative requirements relating to public entities are understood.
- > Best practice techniques to assess the financial implications of public entities are applied.
- > Contributions are made to the development of a plan to monitor contract compliance and regulation of public entities.
- > An implementation process for the institutionalising of public entities as service delivery mechanisms are suggested and developed.
- > Best practice project management principles to effectively establish proposed public entities are applied.

24:

- > An understanding of the rationale for Public-Private partnerships (PPP) and different options available to municipalities is demonstrated.
- > Different types of Public-Private Partnerships, their contractual arrangements and operational framework are evaluated.
- > The development of a plan to monitor contract compliance and regulation of PPP projects are contributed.

- > The required ethical standards applied in municipal service delivery through PPP are complied with.
- > An implementation process for institutionalising PPP as service delivery mechanisms are developed and suggested.

#### Integrated assessment:

Because assessment practices must be open, transparent, fair, valid, and reliable and ensure that no learner is disadvantaged in any way whatsoever, an integrated assessment approach is incorporated into the Qualification.

Learning, teaching and assessment are inextricably lined. Whenever possible, the assessment of knowledge, skills, attitudes and values shown in the unit standards should be integrated.

Assessment of the communication, language, literacy and numeracy should be conducted in conjunction with other aspects and should use authentic Public sector contexts wherever possible.

A variety of methods must be used in assessment and tools and activities must be appropriate to the context in which the learner is working. Where it is not possible to assess the learner in the workplace or on-the-job, simulations, case studies, role-plays and other similar techniques should be used to provide a context appropriate to the assessment.

The term 'Integrated Assessment' implies that theoretical and practical components should be assessed together. During integrated assessments the assessor should make use of formative and summative assessment methods and assess combinations of practical, applied, foundational and reflective competencies.

Assessors and moderators should make use of a range of formative and summative assessment methods. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.

Assessment should ensure that all specific outcomes, embedded knowledge and critical cross-field outcomes are evaluated. The assessment of the critical cross-field outcomes should be integrated with the assessment of specific outcomes and embedded knowledge.

#### INTERNATIONAL COMPARABILITY

Benchmarking was done by comparison to Unit Standards/Outcomes of learning against the Standards Public Finance Management and Administration in:

- > Australia.
- > Kenya.
- > The United Kingdom and Ireland.
- > Tanzania and Uganda.
- > Namibia.

#### > Australia:

Australia, a Chief Financial Officer (CFO) in any level of government is expected either to be a Chartered or Certified Practising Accountant. The qualification of a Chartered or Certified Practising Accountant requires a minimum of a three-year degree, articles served over a three-year period and a further training course designed by the relevant professional body. Those who desire to move from a specialist senior management position to general management usually use their credits towards an MBA qualification and concentrate on study units relating to general and strategic management and industry specific units. The National Diploma in Public Finance Management and Administration qualification is a technical qualification at a level lower than that of CPA.

#### > The United Kingdom and Ireland:

The United Kingdom and Ireland, Financial Managers in Public Administration are expected to be members of the Chartered Institute of Public Finance and Accountancy (CIPFA) and to comply with their requirements. CIPFA promotes public sector finance management interest through its professional qualification and continuing professional development scheme; and through its regulatory role comprising the setting of professional standards and the maintenance of a professional disciplinary scheme for members. The National Diploma in Public Finance Management and Administration form a good basis for learners who wish to qualify as CIPFA members. The National Diploma: Public Finance Management and



Administration compares quite favourably with the Certificate in Business Accounting offered by the Chartered Institute of Management Accountants (UK).

> Kenya:

Kenya Accountants and Secretaries National Examination Board (KASNEB) is an examination body which registers learners and sets, administers and manages accounting, finance, administration and management examinations both at professional and technician levels.

The examinations of the Board are recognised worldwide and are comparable to similar professional examinations (ACCA and CIS) in the world.

The Board administers the following four major examinations:

> The Certified Public Accountants (CPA) examination for those learners who wish to qualify and work as professional accountants, auditors, finance managers, tax and financial consultants. The CPA qualification has two elective subjects on government finance and government Accounting. The learning outcomes underlying this qualification are equivalent to SAQA's NQF level 7 outcomes.

> The Certified Public Secretaries (CPS) examination for those learners who wish to qualify and work as corporate secretaries, company secretaries, town clerks, secretary managers, consultants and managers in industry and commerce; administrators and human resources advisers in public and private institutions. The CPS qualification has two elective subjects on government finance and government Accounting. The learning outcomes underlying this qualification are equivalent to SA's NQF level 6 broad outcomes. This is the highest qualification that must be held by candidates seeking to fill Municipal Managers (Town Clerk) and Treasurers positions in Kenya's local government.

> The Kenya Accounting Technicians Certificate (KATC) examination for those learners who wish to obtain a qualification as specialised middle-level accountants, who are also known as accounting technicians. The learning outcomes of this qualification closely match those attributable to accounting technicians' qualifications registered at an NQF level 5 in South Africa.

> The Kenya Administration and Management Examination (KAME) is for those learners who wish to obtain a qualification as supervisors, administrative officials, section heads and first level managers and administrators in the public and private sectors.

Middle managers in administration in the Kenyan government or local governments are expected to hold either the KATC or KAME Qualifications.

> Tanzania and Uganda:

Faculties of economics and management sciences at universities tend to offer subjects whose technical and academic content is closely aligned to the examinations administered by KASNEB. It follows that there is insignificant coverage of public sector finance and accounting issues given that they tend to receive a peripheral treatment in the CPS/CPA examinations administered by KASNEB. The training situation is not materially different from that prevailing in Tanzania and Uganda given that the two countries have tended to adopt a similar approach to training of management, accounting and finance professionals.

> Namibia:

The University of Namibia has a certificate programme in Taxation and Public Finance, which was designed in 2000 to equip those high school graduates with experience in technical accounting issues in the central and local government.

On the basis of the scope of subjects and related learning outcomes addressed, this certificate programme can only be equated to certificates in finance registered at an NQF level 5. This qualification provides a foundation to first degrees in accounting, administration and finance at the same university. The holders of this qualification require a further advanced degree in order to hold the positions of CEOs or CFOs at government organisations.

This Diploma in Public Finance Management and Administration NQF Level 5 contains the skills and knowledge required for the South African situation. This qualification presents the learner with the necessary knowledge and skills required to carry out public financial management and administration functions in South Africa. The competencies related to the administration, accounting and finance function



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

1

**Analyse and evaluate the impact of macroeconomic data on the operating environment of the public sector**

SAQA US ID		UNIT STANDARD TITLE	
119347		Analyse and evaluate the impact of macroeconomic data on the operating environment of the public sector	
SGB NAME		NSB 03	PROVIDER NAME
SGB Public Administration and Management		Business, Commerce and Management Studies	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Public Administration
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Discuss the impact of macro-economic decisions on the economy and a business environment.

#### **SPECIFIC OUTCOME 2**

Discuss the impact of macro-economic decisions on investment strategies in a business environment.

#### **SPECIFIC OUTCOME 3**

Use economic indicators to determine the current economic cycle and possible future directions.

#### **SPECIFIC OUTCOME 4**

Apply trends in the economic environment to a specific financial organisation.

#### **SPECIFIC OUTCOME 5**

Demonstrate an understanding of the financial world of public finance management and administration.

#### **SPECIFIC OUTCOME 6**

Demonstrate an understanding of the nature and importance of debt in financing public capital projects.





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## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

2

Apply accounting principles and procedures in the preparation of reports and decision making

SAQA US ID	UNIT STANDARD TITLE		
119350	Apply accounting principles and procedures in the preparation of reports and decision making		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 5	Regular

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of accounting principles and reporting requirements and nature of functions in public sector.

**SPECIFIC OUTCOME 2**

Use accounting techniques and approaches to process financial information.

**SPECIFIC OUTCOME 3**

Apply end of period accounting procedures in the preparation of financial statements.

**SPECIFIC OUTCOME 4**

Apply procedures necessary for control over cash transactions and balances.

**SPECIFIC OUTCOME 5**

Utilise procedures for reporting and recording accounts receivables.

**SPECIFIC OUTCOME 6**

Utilise procedures for recording and reporting on liabilities in the public sector.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

3

#### Apply cost management information systems in the preparation of management reports

SAQA US ID	UNIT STANDARD TITLE		
119341	Apply cost management information systems in the preparation of management reports		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Identify and apply different methods of accounting for costs in the public setting.

#### **SPECIFIC OUTCOME 2**

Compile costing information for management control.

#### **SPECIFIC OUTCOME 3**

Prepare cost performance reports using variance analyses techniques.

#### **SPECIFIC OUTCOME 4**

Present relevant data to support non-routine short-term decisions.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

4

## Apply economic principles to finance and management decisions

SAQA US ID	UNIT STANDARD TITLE		
119340	Apply economic principles to finance and management decisions		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 5	Regular

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of the principles of economics as they apply to public finance.

**SPECIFIC OUTCOME 2**

Distinguish between micro-economics and macro-economics.

**SPECIFIC OUTCOME 3**

Describe the use of economic indicators.

**SPECIFIC OUTCOME 4**

Utilise economic indicators, theories and principles to determine the current economic cycle and possible future directions.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

5

**Apply knowledge of ethical principles, standards and professional conduct in public sector management and administration**

SAQA US ID	UNIT STANDARD TITLE		
119342	Apply knowledge of ethical principles, standards and professional conduct in public sector management and administration		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Explain the core ethical values and standards which apply to the public sector.

#### **SPECIFIC OUTCOME 2**

Outline ethical values and standards contained in legislation and codes, which have relevance to the conduct of employees in the public sector.

#### **SPECIFIC OUTCOME 3**

Describe areas of ethical conflict for public sector employees.

#### **SPECIFIC OUTCOME 4**

Explain the importance of ethical values and standards in relation to the public sector.

#### **SPECIFIC OUTCOME 5**

Discuss relevance of established professional ethics and codes of conduct in the public sector workplace.

#### **SPECIFIC OUTCOME 6**

Discuss the relevance of established professional ethics and codes of conduct in public sector administration.



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## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

6

**Apply operations research principles and tools in the management of project activities and resources**

SAQA US ID	UNIT STANDARD TITLE		
119343	Apply operations research principles and tools in the management of project activities and resources		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Demonstrate an understanding of project management principles as they relate to the public finance management and administration context.

#### **SPECIFIC OUTCOME 2**

Identify and apply a range of project management tools to support research in the management of project activities.

#### **SPECIFIC OUTCOME 3**

Initiate and manage specific projects within the public finance management and administration context.

#### **SPECIFIC OUTCOME 4**

Evaluate projects.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

7

**Apply principles of computerised systems to manage data and reports relevant to the public sector administration**

SAQA US ID		UNIT STANDARD TITLE	
119351		Apply principles of computerised systems to manage data and reports relevant to the public sector administration	
SGB NAME		NSB 03	PROVIDER NAME
SGB Public Administration and Management		Business, Commerce and Management Studies	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Public Administration
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Describe the basic elements of a computer-based information system.

#### **SPECIFIC OUTCOME 2**

Utilise computer applications commonly found in the public sector environment.

#### **SPECIFIC OUTCOME 3**

Identify opportunities to use the computer as a management tool.

#### **SPECIFIC OUTCOME 4**

Monitor and control information to prevent technology risks.





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

8

#### Apply principles of information systems to public finance and administration

SAQA US ID	UNIT STANDARD TITLE		
119352	Apply principles of information systems to public finance and administration		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

#### SPECIFIC OUTCOME 1

Identify and describe the elements of management information systems (MIS) relevant to public finance management and administration.

#### SPECIFIC OUTCOME 2

Utilise information technology to aid management planning.

#### SPECIFIC OUTCOME 3

Assess and provide recommendations on the risk associated with information technology.

#### SPECIFIC OUTCOME 4

Utilise e-commerce and e-governance software to enhance work productivity.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

9

#### Apply principles of risk management to manage and report risk situations

SAQA US ID		UNIT STANDARD TITLE	
119349		Apply principles of risk management to manage and report risk situations	
SGB NAME		NSB 03	PROVIDER NAME
SGB Public Administration and Management		Business, Commerce and Management Studies	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Public Administration
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Explain the concept of risk in a public sector financial administration environment.

#### **SPECIFIC OUTCOME 2**

Apply the principles of risk to make a financial decision.

#### **SPECIFIC OUTCOME 3**

Determine risk assessment.

#### **SPECIFIC OUTCOME 4**

Analyse the effect of selected scenarios on a potential risk.



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## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

10

Apply principles, regulations and legislation underlying supply chain management in the public sector

SAQA US ID	UNIT STANDARD TITLE		
119345	Apply principles, regulations and legislation underlying supply chain management in the public sector		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 5	Regular

#### SPECIFIC OUTCOME 1

Identify and apply the principles of supply chain management.

#### SPECIFIC OUTCOME 2

Apply supply chain management policies and procedures within the public sector.

#### SPECIFIC OUTCOME 3

Utilise supply chain management systems and resources to fulfill the function effectively.

#### SPECIFIC OUTCOME 4

Secure and manage supplier contracts.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

11

**Apply selected GRAP (Generally Recognised Accounting Practices) to periodic accounting reporting process**

SAQA US ID	UNIT STANDARD TITLE		
119348	Apply selected GRAP (Generally Recognised Accounting Practices) to periodic accounting reporting process		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Explain and apply the conceptual framework underlying GRAP.

#### **SPECIFIC OUTCOME 2**

Present separate periodic financial statements in accordance with GRAP.

#### **SPECIFIC OUTCOME 3**

Explain selected statutory provisions related to financial reporting.

#### **SPECIFIC OUTCOME 4**

Analyse and interpret financial statements.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

12

Apply sound communication principles in the coordination of selected public sector communications programmes

SAQA US ID	UNIT STANDARD TITLE		
119346	Apply sound communication principles in the coordination of selected public sector communications programmes		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 5	Regular

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of a communication process used to coordinate selected communications programmes in the public sector.

**SPECIFIC OUTCOME 2**

Identify and utilise appropriate communication tools and strategies.

**SPECIFIC OUTCOME 3**

Overcome barriers to communication.

**SPECIFIC OUTCOME 4**

Utilise information technology to enhance communications.





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

13

Apply the legislation governing the establishment and management of public entities

SAQA US ID	UNIT STANDARD TITLE		
119344	Apply the legislation governing the establishment and management of public entities		
SGB NAME		NSB 03	PROVIDER NAME
SGB Public Administration and Management		Business, Commerce and Management Studies	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Public Administration
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of the legislative requirements relating to public entities.

**SPECIFIC OUTCOME 2**

Apply best practice techniques to assess the financial and human resource implications of public entities.

**SPECIFIC OUTCOME 3**

Contribute to the development of a plan to monitor contract compliance and regulation of entities' projects.

**SPECIFIC OUTCOME 4**

Develop and suggest implementation process for institutionalising entities as service delivery mechanisms.

**SPECIFIC OUTCOME 5**

Apply best practice project management principles to effectively establish the proposed entities.



Established in terms of Act 58 of 1995

## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

14

## Conduct and apply mathematical analyses relating to economics and finance

SAQA US ID	UNIT STANDARD TITLE		
119333	Conduct and apply mathematical analyses relating to economics and finance		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 5	Regular

**SPECIFIC OUTCOME 1**

Apply mathematical calculations to different business transactions.

**SPECIFIC OUTCOME 2**

Critique and use mathematical techniques for collecting, organizing and representing data.

**SPECIFIC OUTCOME 3**

Define economic relationships based on mathematical analysis.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

15

**Conduct and apply statistical analyses required to make informed public sector finance decisions**

SAQA US ID	UNIT STANDARD TITLE		
119335	Conduct and apply statistical analyses required to make informed public sector finance decisions		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Demonstrate an understanding of the various statistical techniques used to summarise and present data.

#### **SPECIFIC OUTCOME 2**

Explain and demonstrate the use of probability concepts where risk and uncertainty exist.

#### **SPECIFIC OUTCOME 3**

Explain and demonstrate techniques used for forecasting based on an analysis of time series data.

#### **SPECIFIC OUTCOME 4**

Demonstrate an understanding of regression analysis as a tool of discerning economic relationships.

#### **SPECIFIC OUTCOME 5**

Demonstrate an understanding of statistical sampling techniques to decision situations that are dependent on limited information.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

16

**Conduct working capital management activities in accordance with sound financial management policy**

SAQA US ID		UNIT STANDARD TITLE	
119331		Conduct working capital management activities in accordance with sound financial management policy	
SGB NAME		NSB 03	PROVIDER NAME
SGB Public Administration and Management		Business, Commerce and Management Studies	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Public Administration
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

**SPECIFIC OUTCOME 1**

Use the working capital management policy applicable to the public finance management and administration sector.

**SPECIFIC OUTCOME 2**

Use financial information to inform working capital decisions.

**SPECIFIC OUTCOME 3**

Manage accounts receivable.

**SPECIFIC OUTCOME 4**

Manage inventory.

**SPECIFIC OUTCOME 5**

Manage cash resources.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

17

**Discuss the selected legislative regulatory framework governing the public sector management and administration environment**

SAQA US ID	UNIT STANDARD TITLE		
119334	Discuss the selected legislative regulatory framework governing the public sector management and administration environment		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Demonstrate an understanding of and interpret the South African constitution in relation to public sector financial management.

#### **SPECIFIC OUTCOME 2**

Identify and apply the regulations governing Division of Revenue.

#### **SPECIFIC OUTCOME 3**

Demonstrate knowledge of and apply the South African legal system within the public sector financial management and administration context.

#### **SPECIFIC OUTCOME 4**

Apply legislative regulations and legal principles to contracts.

#### **SPECIFIC OUTCOME 5**

Manage the implementation of the Municipal Finance Management Act in a municipality.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

18

## Manage and develop oneself in the public sector work environment

SAQA US ID	UNIT STANDARD TITLE		
119332	Manage and develop oneself in the public sector work environment		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 5	Regular

**SPECIFIC OUTCOME 1**

Demonstrate insight into emotional intelligence in personal development.

**SPECIFIC OUTCOME 2**

Manage work relationships within the Public Sector environment.

**SPECIFIC OUTCOME 3**

Demonstrate an understanding of stress in order to apply strategies to achieve optimal stress levels in personal and work situations.

**SPECIFIC OUTCOME 4**

Identify and apply the skills and knowledge required for the development of a career path.





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

19

#### Manage the development and performance of human capital in the public sector

SAQA US ID	UNIT STANDARD TITLE		
119336	Manage the development and performance of human capital in the public sector		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Demonstrate an understanding of human resources principles and legislation and its applications to the public sector.

#### **SPECIFIC OUTCOME 2**

Compile a human resources plan.

#### **SPECIFIC OUTCOME 3**

Manage performance of individuals within a team.

#### **SPECIFIC OUTCOME 4**

Recruit and select staff.

#### **SPECIFIC OUTCOME 5**

Manage the training and development of individuals within a team.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

20

Operate an internal audit function as a component of a risk management system to ensure reliability of accounting system

SAQA US ID	UNIT STANDARD TITLE		
119337	Operate an internal audit function as a component of a risk management system to ensure reliability of accounting system		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of the nature of audit and appraise the fundamental principles and standards that are used to govern its practice.

**SPECIFIC OUTCOME 2**

Demonstrate an understanding of the internal audit function of public finance management and administration.

**SPECIFIC OUTCOME 3**

Identify and apply an internal audit plan.

**SPECIFIC OUTCOME 4**

Manage quality control and improvement of the audit function.

**SPECIFIC OUTCOME 5**

Manage key relationships and networks pertaining to the internal audit function.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

21

#### Participate in the planning and implementation of disaster management systems

SAQA US ID		UNIT STANDARD TITLE	
119338		Participate in the planning and implementation of disaster management systems	
SGB NAME		NSB 03	PROVIDER NAME
SGB Public Administration and Management		Business, Commerce and Management Studies	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Public Administration
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Identify and discuss types of disasters and their implications on a macro- and micro-level.

#### **SPECIFIC OUTCOME 2**

Discuss approaches to disaster management.

#### **SPECIFIC OUTCOME 3**

Identify and implement disaster management policies.

#### **SPECIFIC OUTCOME 4**

Analyse various disaster scenarios and make recommendations for effective disaster management.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

22

Prepare and interpret tax reports and returns required by South Africa's legislation

SAQA US ID	UNIT STANDARD TITLE		
119339	Prepare and interpret tax reports and returns required by South Africa's legislation		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

**SPECIFIC OUTCOME 1**

Ensure compliance with the provisions relating to returns, accounts and records within the public sector context.

**SPECIFIC OUTCOME 2**

Ensure compliance with the provisions relating to the taxation of employment income.

**SPECIFIC OUTCOME 3**

Ensure compliance with and comment on the provisions relating to objection, appeal and review.

**SPECIFIC OUTCOME 4**

Ensure compliance with the provisions relating to payment recovery and refund.

**SPECIFIC OUTCOME 5**

Ensure compliance with the provisions relating to administration.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

23

#### Plan and implement public-private partnerships for municipal service delivery

SAQA US ID	UNIT STANDARD TITLE		
119353	Plan and implement public-private partnerships for municipal service delivery		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Public Administration and Management	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 6	Regular

#### **SPECIFIC OUTCOME 1**

Demonstrate an understanding of the rationale for Public-Private Partnerships (PPP) and different options available to municipalities.

#### **SPECIFIC OUTCOME 2**

Evaluate different types of Public-Private Partnerships, their contractual arrangements and operational framework.

#### **SPECIFIC OUTCOME 3**

Contribute to the development of a plan to monitor contract compliance and regulation of PPP projects.

#### **SPECIFIC OUTCOME 4**

Comply with required ethical standards applied in municipal service delivery through public-private partnerships.

#### **SPECIFIC OUTCOME 5**

Develop and suggest implementation process for institutionalising PPP as service delivery mechanisms.

No. 222

18 March 2005

**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

**Procurement, Logistics and Supply Chain Management**

Registered by NSB 03, Business, Commerce and Management Studies, publishes the following qualifications unit standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the qualifications and unit standards. The qualification and unit standards can be accessed via the SAQA web-site at [www.saga.org.za](http://www.saga.org.za). Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, Hatfield Forum West, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the unit standards should reach SAQA at the address *below and no later than 18 April 2005*. All correspondence should be marked **Standards Setting – SGB for Procurement, Logistics and Supply Chain Management** and addressed to

The Director: Standards Setting and Development  
SAQA

Attention: Mr. E. Brown

Postnet Suite 248

Private Bag X06

Waterkloof

0145

or faxed to 012 – 431-5144

e-mail: [ebrown@saga.co.za](mailto:ebrown@saga.co.za)



DUGMORE MPHUTHING

ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

1

**Define and apply the policy and procedure for the acquisition of armaments**

SAQA US ID		UNIT STANDARD TITLE	
119210		Define and apply the policy and procedure for the acquisition of armaments	
SGB NAME		NSB 03	PROVIDER NAME
SGB Procurement, Logistics and Supply Chain Mngt		Business, Commerce and Management Studies	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Procurement
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	Level 4	Regular

#### **SPECIFIC OUTCOME 1**

Identify and describe the fundamental parts of the Acquisition Policy.

#### **SPECIFIC OUTCOME 2**

Define the Acquisition Procedural context.

#### **SPECIFIC OUTCOME 3**

Identify the different phases that form part of the Acquisition procedures, defining the phase in general and indicating the relevant functions.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

2

## Manage the obtaining of an offer for a complex acquisition

SAQA US ID	UNIT STANDARD TITLE		
119207	Manage the obtaining of an offer for a complex acquisition		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Procurement, Logistics and Supply Chain Mngt	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Procurement	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 4	Regular

**SPECIFIC OUTCOME 1**

Provide an overview of the administrative process applicable to the specific acquisition process.

**SPECIFIC OUTCOME 2**

Confirm funding requirements for a defence and security related requirement.

**SPECIFIC OUTCOME 3**

Process the offer on the specific acquisition system.

**SPECIFIC OUTCOME 4**

Compile and process a request for an offer.

**SPECIFIC OUTCOME 5**

Handle offers within the specific acquisition system.



# SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

3

### Process a complex acquisition order

SAQA US ID	UNIT STANDARD TITLE		
119208	Process a complex acquisition order		
SGB NAME		NSB 03	PROVIDER NAME
SGB Procurement, Logistics and Supply Chain Mngt		Business, Commerce and Management Studies	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Procurement
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 4	Regular

#### SPECIFIC OUTCOME 1

Request financial authorization within the defence acquisition environment.

#### SPECIFIC OUTCOME 2

Compile an order/submission as part of an acquisition.

#### SPECIFIC OUTCOME 3

Process and place orders within the defense and security related environment.

#### SPECIFIC OUTCOME 4

Manage post order administration.

No. 223

18 March 2005

**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

**Procurement, Logistics and Supply Chain Management**

Registered by NSB 03, Business, Commerce and Management Studies, publishes the following qualifications unit standards for public comment.

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DUGMORE MPHUTHING

ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### QUALIFICATION:

#### *National Diploma: Complex Acquisition Management: (Defence and Security related)*

SAQA QUAL ID	QUALIFICATION TITLE		
49469	National Diploma: Complex Acquisition Management: (Defence and Security related)		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Procurement, Logistics and Supply Chain Mngt	Business, Commerce and Management Studies		
QUAL TYPE	FIELD	SUBFIELD	
National Diploma	Business, Commerce and Management Studies	Procurement	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	240	Level 5	Regular-Unit Stds Based

### PURPOSE AND RATIONALE OF THE QUALIFICATION

#### Purpose of the qualification

The purpose of the qualification is to build the knowledge and skills required by the defence and security related acquisition environment allowing learners to function as programme managers, engineering managers, logistical managers and quality assurance managers. It is intended to empower learners to acquire knowledge, skills, attitudes and values required to apply business acumen, establish, validate and manage user requirements, programme management and to provide specialist expertise.

The qualification covers management and provides a framework for learners to develop competencies that will enable them to become competent acquisition managers within the defence and security related environment. It introduces a fundamental understanding of the key terms, rules, concepts and principles of acquisition management. It provides a balanced learning experience that allows flexible access to life long learning, higher education and to productive employment.

The unit standards included in the qualification are intended as building blocks for the further learning and development of skills that will make the learner a more fulfilled, informed, efficient and cost effective manager. The skills, knowledge, values and understanding demonstrated within this qualification are essential for a positive impact on social and economic transformation and upliftment within the democratic South African society.

#### Rationale

The uniqueness of a programme manager in the defence sector, the highly regulated acquisition environment and the application of systems engineering, demands a unique and multi-disciplinary set of skills which led to the need for this qualification.

This qualification is intended to empower learners to operate efficiently within the defence and security related acquisition environment. It is envisaged that learners who complete this qualification will be engaged in multiple work roles in a variety of divisions and/or programmes and will be able to play a part, at their level, in contributing ultimately to the success of the defence and security related acquisition programme management.

The qualification allows for learners to complete all the unit standards in core and fundamental and then split out to specialised areas as a programme manager, a systems engineer, a logistical engineer and a quality assurance manager.

This qualification allows the learner to attain a nationally recognised qualification. It is flexible enough to accommodate both learners in formal education and learners already employed within the defence and

security related environment. It aims to develop informed and skilled learners. The skills, knowledge, values and attitudes reflected in the qualification are building blocks that will be developed further at NQF level 5 and higher.

Anybody involved in the defence and security related acquisition process must adhere to national and international legislation, policies and procedures. Defence includes, but is not limited to South African Defence Force, South African Police and Correctional Services.

This qualification is particularly applicable to complex projects. Complex projects include:

- > Acquisition projects, for instance the procurement of military equipment or large-scale IT projects,
- > Projects in the public arena with many stakeholders, for instance AIDS prevention and education projects or education transformation projects, and
- > Development projects in environmentally-sensitive areas having a contentious cost-benefit balance, for instance mining development.

The acquisition principles as embedded in the unit standards associated to this qualification may be tailored to less-complex projects.

#### **RECOGNIZE PREVIOUS LEARNING?**

N

#### **LEARNING ASSUMED TO BE IN PLACE**

It is assumed that learners have obtained the skills and knowledge as identified in the National Certificate in Project Management: NQF Level 4 or relevant prior learning that can be recognised

It is assumed that learners are competent in Communication, Computer Literacy and Mathematical Literacy at NQF level 4

All competencies reflected in the learning assumed to be in place could be achieved through the recognition of prior learning

Recognition of prior learning

This qualification may be achieved in part or completely through the recognition of prior learning, which includes formal, informal and non-formal learning and work experience. The learner should be thoroughly briefed on the mechanism to be used and support and guidance should be provided. Care should be taken that the mechanism used provides the learner with an opportunity to demonstrate competence and is not so onerous as to prevent learners from taking up the RPL option towards gaining a qualification.

#### **QUALIFICATION RULES**

- > Fundamentals: 86 credits
- > Core: 110 credits
- > Electives: 44 credits

#### **EXIT LEVEL OUTCOMES**

1. Apply business acumen
2. Establish, validate and manage user requirements
3. Apply defence and security related acquisition programme management principles
4. Provide specialist technical expert services

#### **ASSOCIATED ASSESSMENT CRITERIA**

1.
  - > Self- and business- and conflict management principles are explained, described and applied in the defence and security related acquisition process.
  - > Communicate effectively in implementing best practice within the team, department or division in the context of the acquisition process.
  - > Demonstrate an understanding of Computer Database Management Systems as part of the defence and security related acquisition process as it relates to the acquisition process.
  - > Areas in need of change are recognised and communicated in accordance with the project or programme strategy and action plans.
2.
  - > System engineering principles are explained, described and applied as it relates to the acquisition process
  - > Acquisition requirements are identified, recorded and managed as required in the Defence and Security



related acquisition process

> Functional requirements are explained, identified, recorded and managed as required in the defence and security related acquisition process

3.

> Contracts and contract management as required in the defence and security related acquisition process are explained and managed

> Integrated defence and security related acquisition programmes are managed using programme management principles

> Technical meetings are conducted and managed as it relates to the acquisition process

4.

> The project environment and activities to deliver the project objectives in the specialist expert areas are supported as it relates to the acquisition process

> Specialist technical expert services are provided as it relates to the acquisition process

### Integrated Assessment

The applied competence (practical, foundational and reflexive competencies) of this qualification will be achieved if a candidate is able to explain the broad context and concept of management principles in South Africa and the greater environment. This will enable a learner to apply and maintain standard operating procedures and protocols in order to assist and support the achievement of the objectives of incident management.

Any combination of foundational, reflexive and practical competencies needs to be assessed with the appropriate methods and tools that will determine applied competence. A detailed portfolio of evidence is required to prove the applied competencies of the learner.

Assessors and moderators should develop and conduct their own integrated assessment by making use of a range of formative and summative assessment methods. Assessors should assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience.

### INTERNATIONAL COMPARABILITY

It is imperative to develop a qualification for all defence and security related acquisition managers to ensure continuous economic development whilst at the same time underpinning the objectives of the NQF. The qualification should also be comparable internationally. In selecting countries for international comparison it is important to consider countries where the economic context in which the qualification is to be used is similar to the South African context. Ideally, the South African defence and security related acquisition management qualification should be compared to qualifications from a country with a developed economy and a second developing country with an emerging economy in order to include contexts that have similarities to the South African situation. Canada and Malaysia have been chosen. The following websites were searched for qualifications that relate defence and security related acquisition management.

An attempt to do a comparison with a country with an emerging economy, the following websites were searched:

> Malaysian Accrediting Body: Lenbaga Akreditasi Negara: [www.lan.gov.my](http://www.lan.gov.my)

> Mexican Accrediting Body: COPAES: [www.copaes.org.mx](http://www.copaes.org.mx)

> National Assessment and Accreditation Council (India): [www.naac-india.com](http://www.naac-india.com)

> Nigeria: [www.nigeria.com](http://www.nigeria.com)

This qualification could not be compared to a qualification in a country with an emerging economy because the websites are not presented in English or there is no information available on the accreditation of learning programmes against national unit standards and/or qualifications. Some of the websites are inaccessible and one only deals with education in schools.

International comparisons with qualifications in the South African Developing Countries proved to be difficult as no qualifications could be found.

### ARTICULATION OPTIONS

This qualification will enable the qualifying candidate to progress to other related qualifications. This qualification articulates horizontally with all related learning in the Higher Education and Training band for

example:

- > National Certificate in Project Management L4 and L5
- > National Certificate in Administration and Business Administration at Level 4 and L5
- > National Certificate in Human Resources at Level 4 and level 5

#### **MODERATION OPTIONS**

- > Anyone assessing a learner or moderating the assessment of a learner against this Qualification and Unit Standards must be registered as an assessor with the relevant ETQA.
- > Any institution offering learning that will enable the achievement of this Qualification and Unit Standards must be accredited as a provider with the relevant ETQA.
- > Assessment and moderation of assessment will be overseen by the relevant ETQA according to the ETQA's policies and guidelines for assessment and moderation; in terms of agreements reached around assessment and moderation between ETQAs (including professional bodies);
- > Moderation must include both internal and external moderation of assessments at exit points of the qualification, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described both in individual unit standards, exit level outcomes as well as the integrated competence described in the qualification.

Criteria for registration of assessors

- > An individual wishing to be assessed (including through RPL) against this Unit Standard may apply to an assessment agency, assessor or provider institution accredited by the relevant ETQA, or an ETQA that has a Memorandum of Understanding with the relevant ETQA.
- > Anyone assessing a learner against this Unit Standard must be registered as an assessor with the relevant ETQA or with an ETQA that has a Memorandum of Understanding with the relevant ETQA
- > Any institution offering learning that will enable achievement of this Unit Standard or assessing this Unit Standard must be accredited as a provider with the relevant ETQA or with an ETQA that has a Memorandum of Understanding with the relevant ETQA
- > Moderation of assessment will be conducted by the relevant ETQA at its discretion

#### **CRITERIA FOR THE REGISTRATION OF ASSESSORS**

- > The assessor must have a related tertiary qualification on at least NQF Level 6.
- > The assessor must have at least 5 years experience in the relevant field.

#### **NOTES**

The elective unit standard category is open ended to allow the learner to choose the 44 credits associated to the elective unit standards from any discipline that would add value to the purpose of the qualification or the learners own development on a learning pathway.

#### **UNIT STANDARDS**

*(Note: A blank space after this line means that the qualification is not based on Unit Standards.)*

	UNIT STANDARD ID AND TITLE	LEVEL	CREDITS	STATUS
Core	119210 Define and apply the policy and procedure for the acquisition of armaments	Level 4	4	Draft - Prep for P Comment
Core	12999 Contribute to the management of costs and the enhancement of value	Level 5	10	Registered
Core	15137 Apply contract documentation	Level 5	10	Registered
Core	15225 Identify and interpret related legislation and its impact on the team, department or division and ensure compliance	Level 5	4	Registered
Core	15238 Devise and apply strategies to establish and maintain relationships	Level 5	3	Registered
Core	110526 Plan, organise, implement and control record-keeping systems	Level 5	4	Registered
Core	114050 Explain the principles of business and the role of information technology	Level 5	4	Registered
Core	114051 Conduct a technical practitioners meeting	Level 5	4	Registered
Core	114601 Identify, select and co-ordinate value engineering project life cycle phase	Level 5	4	Registered
Core	114873 Apply basic financial procedures to PFMA principles	Level 5	3	Registered
Core	119209 Develop functional specification for complex acquisition programmes	Level 5	8	Draft - Prep for P Comment
Core	119211 Apply systems engineering principles in a complex acquisition management process	Level 5	8	Draft - Prep for P Comment
Core	119212 Manage complex acquisition contracts	Level 5	8	Draft - Prep for P Comment
Core	119213 Manage an integrated complex acquisition programme	Level 5	20	Draft - Prep for P Comment

Core	119214 Manage requirements within a complex acquisition programme	Level 5	8	Draft - Prep for P Comment
Core	119215 Develop acquisition requirements to meet stakeholders' needs	Level 5	8	Draft - Prep for P Comment
Elective	10147 Supervise a project team of a technical project to deliver project objectives	Level 5	14	Reregistered
Elective	10149 Support the project environment and activities to deliver project objectives	Level 5	14	Reregistered
Elective	11273 Apply Fundamental Concepts of Supply Chain Management Optimisation	Level 5	8	Registered
Elective	11274 Negotiate International Contracts of Purchase and Sale	Level 5	8	Registered
Elective	12432 Use mathematical and statistical techniques effectively	Level 5	20	Registered
Elective	12458 Develop the skills of a work team	Level 5	10	Registered
Elective	13237 Optimise the quality assurance system	Level 5	6	Registered
Elective	14214 Evaluate and improve the project team's performance	Level 5	8	Reregistered
Elective	15144 Develop and manage quality systems and procedures on a construction project	Level 5	12	Registered
Elective	15148 Manage financial aspects of a construction project	Level 5	8	Registered
Elective	15216 Create opportunities for innovation and lead projects to meet innovative ideas	Level 5	4	Registered
Elective	110508 Demonstrate and apply knowledge and understanding of the concept of facilitation and a range of facilitation skills	Level 5	6	Registered
Elective	114599 Apply Functional Value to Engineering Design	Level 5	6	Registered
Fundamental	8043 Applying advanced business principles	Level 5	20	Reregistered
Fundamental	8662 Analyse and communicate workplace data	Level 5	5	Reregistered
Fundamental	10622 Conduct communication within a business environment	Level 5	8	Reregistered
Fundamental	11911 Manage individual careers	Level 5	5	Registered
Fundamental	14522 Analyse and explain the impact of one's personal interactive style on one's relationship with a client	Level 5	6	Registered
Fundamental	14609 Participate in management of conflict	Level 5	4	Registered
Fundamental	15096 Demonstrate an understanding of stress in order to apply strategies to achieve optimal stress levels in personal and work situations	Level 5	5	Registered
Fundamental	15214 Recognise areas in need of change, make recommendations and implement change in the team, department or division	Level 5	3	Registered
Fundamental	15215 Identify and interpret Best Practice guidelines, and plan for and implement Best Practice within the team, department or division	Level 5	4	Registered
Fundamental	15219 Develop and implement a strategy and action plans for a team, department or division	Level 5	4	Registered
Fundamental	15234 Apply efficient time management to the work of a department/division/section	Level 5	4	Registered
Fundamental	15237 Build teams to meet set goals and objectives	Level 5	3	Registered
Fundamental	110525 Apply a range of skills to facilitate workshops, community meetings and planned sessions in the local economic development environment	Level 5	8	Registered
Fundamental	114049 Demonstrate an understanding of Computer Database Management Systems	Level 5	7	Registered



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

1

## Apply systems engineering principles in a complex acquisition management process

SAQA US ID	UNIT STANDARD TITLE		
119211	Apply systems engineering principles in a complex acquisition management process		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Procurement, Logistics and Supply Chain Mngt	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Procurement	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 5	Regular

**SPECIFIC OUTCOME 1**

Manage the systems engineering life cycle in accordance with the acquisition process.

**SPECIFIC OUTCOME 2**

Apply systems engineering practices for a defence and security related acquisition.

**SPECIFIC OUTCOME 3**

Develop acquisition risk management strategies according to organisational policies and procedures.

**SPECIFIC OUTCOME 4**

Develop a validation and verification framework for systems engineering.

**SPECIFIC OUTCOME 5**

Integrate systems engineering specialties into systems development processes.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

2

#### Develop acquisition requirements to meet stakeholders' needs

SAQA US ID	UNIT STANDARD TITLE		
119215	Develop acquisition requirements to meet stakeholders' needs		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Procurement, Logistics and Supply Chain Mngt	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Procurement	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Identify and collect stakeholder needs, expectations, constraints, and interfaces.

#### **SPECIFIC OUTCOME 2**

Elicit stakeholder needs, expectations, constraints, and interfaces.

#### **SPECIFIC OUTCOME 3**

Develop an understanding with the requirement providers on the meaning of the acquisition requirements.

#### **SPECIFIC OUTCOME 4**

Transform stakeholder needs, expectations, constraints, and interfaces into requirements.

#### **SPECIFIC OUTCOME 5**

Analyse the requirements to ensure necessity, validity, sufficiency and completeness.

#### **SPECIFIC OUTCOME 6**

Analyse requirements to balance stakeholder needs and constraints according to systems engineering practice.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

3

## Develop functional specification for complex acquisition programmes

SAQA US ID	UNIT STANDARD TITLE		
119209	Develop functional specification for complex acquisition programmes		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Procurement, Logistics and Supply Chain Mngt	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Procurement	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 5	Regular

**SPECIFIC OUTCOME 1**

Establish and maintain operating concepts, support concepts, maintenance concepts, disposal concepts and transportation concepts.

**SPECIFIC OUTCOME 2**

Establish and maintain a definition of the functionality needed to accomplish the requirements.

**SPECIFIC OUTCOME 3**

Validate requirements to ensure that the resulting system will perform appropriately in its intended-use environment.

**SPECIFIC OUTCOME 4**

Establish and maintain system and product requirements based on customer needs and requirements.





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

4

#### Manage an integrated complex acquisition programme

SAQA US ID	UNIT STANDARD TITLE		
119213	Manage an integrated complex acquisition programme		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Procurement, Logistics and Supply Chain Mngt	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Procurement	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Use a process tailored from the organisation's acquisition practices.

#### **SPECIFIC OUTCOME 2**

Co-ordinate and collaborate with project stakeholders.

#### **SPECIFIC OUTCOME 3**

Organise integrated teams to execute the project.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

5

#### Manage complex acquisition contracts

SAQA US ID	UNIT STANDARD TITLE		
119212	Manage complex acquisition contracts		
SGB NAME	NSB 03	PROVIDER NAME	
SGB Procurement, Logistics and Supply Chain Mngt	Business, Commerce and Management Studies		
UNIT STANDARD TYPE	FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Procurement	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 5	Regular

#### SPECIFIC OUTCOME 1

Develop value systems for the selection of contractors in the defence environment.

#### SPECIFIC OUTCOME 2

Compile request for information/request for proposal documentation.

#### SPECIFIC OUTCOME 3

Perform an evaluation to select a contractor for recommendation.

#### SPECIFIC OUTCOME 4

Present contract for approval.

#### SPECIFIC OUTCOME 5

Monitor contract progress and identify corrective actions.

#### SPECIFIC OUTCOME 6

Review contract line items according to organisational policies and procedures.



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

### UNIT STANDARD:

6

#### Manage requirements within a complex acquisition programme

SAQA US ID	UNIT STANDARD TITLE		
119214	Manage requirements within a complex acquisition programme		
SGB NAME		NSB 03	PROVIDER NAME
SGB Procurement, Logistics and Supply Chain Mngt		Business, Commerce and Management Studies	
UNIT STANDARD TYPE		FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Procurement
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 5	Regular

#### **SPECIFIC OUTCOME 1**

Obtain commitment to requirements (and possible changes) from the project participants.

#### **SPECIFIC OUTCOME 2**

Manage changes to the requirements as they evolve during the project according to organisational policies and procedures.

#### **SPECIFIC OUTCOME 3**

Maintain bidirectional traceability.

#### **SPECIFIC OUTCOME 4**

Identify inconsistencies between various requirements, the project work breakdown structure and associated project plans.

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