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GOVERNMENT NOTICES

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

No. 1155

24 November 2006

**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

Transport and Logistics 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 and unit standards. The qualification and unit standards can be accessed via the SAQA web-site at www.saga.org.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield.

Comment on the qualifications and unit standards should reach SAQA at the address *below and no later than 23 December*. All correspondence should be marked **Standards Setting – SGB for Transport and Logistics Operations** and addressed to

The Director: Standards Setting and Development
SAQA

Attention: Mr. D Mphuthing

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S BHIKHA**DIRECTOR: STANDARDS SETTING AND DEVELOPMENT**



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

Further Education and Training Certificate: Dangerous Goods: Multi-modal Transportation

SAQA QUAL ID	QUALIFICATION TITLE		
57849	Further Education and Training Certificate: Dangerous Goods: Multi-modal Transportation		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Transport and Logistics Operations	11		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD	
Further Ed and Training Cert	Services	Transport, Operations and Logistics	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	128	Level 4	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The carrying of dangerous goods by Multi-modes involves the risk of accidents and incidents, such as spillage of the goods, leading to hazards such as fire, explosion, chemical burn or environmental damage. Therefore this Qualification will contribute to increasing levels of safety, efficiency and effectiveness and will develop a common integrated and co-ordinated approach to the handling and transportation of dangerous goods. The thrust of this Qualification focuses on the regulations, duties and responsibilities which will enable learners to discharge their duties safely. Learners will also become competent with regard to the security of their loads.

A person acquiring this Qualification will obtain the necessary applied competence to provide a top class service pertaining to the handling and transportation of dangerous goods, applying risk management principles and monitoring compliance in the handling and transportation of dangerous goods, and to give advice to management. Learners can specialise on the classification system, marking, labelling, packaging, loading/off loading, storage and transportation of dangerous goods.

The Qualification aims at developing a competent and professional work force to handle and transport dangerous goods.

Rationale:

This Qualification could provide learners with access to employment opportunities within the broader transport sector. The transportation of dangerous goods is a vital responsibility, as those charged with the transportation are held responsible for the safekeeping of the goods and the protecting of the environment and people. Dangerous goods transportation has a major impact on both people and the environment in terms of incidents and accidents where they might be directly or indirectly involved. This Qualification will serve to promote the safe and successful transportation of dangerous goods by Multi-modes of transport (sea, road, air and rail). It develops the competencies required for the transportation of dangerous goods for the public, industry and the government.

This Qualification reflects the need of the community, government and employers for the learner to obtain the essential skills needed for further learning and to receive recognition for existing skills and knowledge. This Qualification aims to develop learners, promote professionalism, work ethics and good governance. It will allow clarification of the specific roles of the learners, the consignor, operator or consignee in the handling and transportation of dangerous goods. The level of flexibility within the range of electives will also allow the individual to pursue further career specialisation within the different modes of transportation (sea, road, air and rail). Learners will receive a formal Qualification in the handling and transportation of

dangerous goods where previously no formal recognition existed and training was done by short courses offered by a range of different providers of education and training. These courses were not always recognised as it was not against recognised standards.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

It is assumed that the learner accessing this Qualification is competent in:

- > Communication at NQF Level 3 or equivalent.
- > Mathematical Literacy at NQF Level 3 or equivalent.
- > Computer Literacy at NQF Level 2 or equivalent.

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 and must adhere to the policies and procedures specified by the relevant ETQA. 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 Recognition of Prior Learning option towards gaining a Qualification.

Access to the Qualification

Access to this Qualification is open bearing in mind the Learning Assumed to be in place.

QUALIFICATION RULES

The Qualification is made up of a combination of learning outcomes from Fundamental, Core and Elective components, totaling 128 credits.

Fundamental

- > There are 56 credits allocated for the Fundamental Unit Standards which are all compulsory.

Core

- > 51 credits have been allocated to the Core Unit Standards. This is to ensure that the Qualification has a strong focus on dangerous goods transportation. The Core Unit Standards offer a broad contextual understanding and will enable the learners to gain an all-round picture of the Dangerous Goods Transportation Industry. All the Core Unit Standards are compulsory.

Electives

- > A minimum of 21 credits must be selected by the learner from the 80 credits available in the 'Elective Component'. Learners should however, attempt to cluster the unit standards according to the modes of transportation in which they operate, although this is not essential.

EXIT LEVEL OUTCOMES

The Outcomes are specified in terms of a combination of Specific and Critical Cross-Field Outcomes as defined in the different unit standards. On achieving this Qualification, a learner is able to:

1. Ensure a safe and healthy workplace environment pertaining to the handling and transportation of dangerous goods by various modes of transport.
2. Apply risk management principles pertaining to the handling and transportation of dangerous goods.
3. Monitor practices and procedures relating to the handling and transportation of dangerous goods.
4. Explain and apply the safe loading and transporting of dangerous goods using a particular mode of transport.

ASSOCIATED ASSESSMENT CRITERIA

1.

- > Hazards in the workplace are identified, evaluated and controlled according to the relevant Health and Safety legislation and conventions.
- > Relevant legislation and regulations relating to occupational health and safety in the workplace are identified, explained and described as well as the role and responsibilities of the safety representative.
- > Health and Safety record keeping criteria as required by the relevant legislation and conventions are

understood and applied according to the stated legislation.

> Health and Safety obligations as required by managers are explained, described and adhered to in terms of communication and training.

2.

> Risk management processes are applied as a monitoring process in the handling and transportation of dangerous goods.

> Risk is managed and controlled in accordance with organisational standards and procedures.

3.

> Knowledge of underlying legislation, regulations and codes of practices relating to the handling and transportation of dangerous goods in a specific contexts are understood and applied.

> Different categories of dangerous goods, their hazards and effects are explained and described.

> Incidents are managed and controlled in accordance with incident management plan.

4.

> Methods and procedures for handing loading dangerous goods on to a particular mode of transport are explained according to safety and legislative requirements.

> A plan to stow, segregate, handle and deal with dangerous goods in various mode of transport is planned in accordance with organisational and legislative requirements.

> Accidents and spills are dealt with according to safety and legislative and organisational requirements.

Integrated assessment

Integrated assessment must evaluate the quality of observable performance as well as the thinking behind the performance. Some assessment aspects will demand practical demonstration on site, while others may not. In some cases inference will be necessary to determine competence depending on the nature and context within which performance takes place.

The assessor will collect evidence of the learner's competence by:

> Observing the learner on site.

> Asking questions and initiating short discussions to test understanding.

> Looking at records and reports.

Since this is a foundational Qualification, it is necessary to ensure that the fundamental part of the Qualification is also targeted to ensure that while the competence may have been achieved in a particular context, learners are able to apply it in a range of other contexts and for further learning. The assessment should also ensure that the critical cross-field outcomes have been achieved.

INTERNATIONAL COMPARABILITY

South Africa has a world class and highly sophisticated transport system and statistics indicated that 85% of goods carried by the various modes of transport are dangerous goods. 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, this 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.

Learners who work in the Air and Marine disciplines are far more regulated than that of road and rail. International Codes have been developed to regulate the transportation of Dangerous Goods by Air and by Sea and these were taken into account in both the learning and comparability.

- > Algeria.
- > Argentina.
- > Australia.
- > Bahamas.
- > Belgium.
- > Cuba.
- > Cyprus.
- > Czech Republic.
- > Denmark.
- > Ecuador.
- > Estonia.
- > Finland.
- > France.

- > Gambia.
- > Germany.
- > Greece.
- > Iceland.
- > India.
- > Indonesia.
- > Iran.
- > Ireland.
- > Israel.
- > Italy.
- > Jamaica.
- > Japan.
- > Latvia.
- > Liberia.
- > Malaysia.
- > Marshall Islands.
- > Mexico.
- > Morocco.
- > Netherlands.
- > New Zealand.
- > Norway.
- > Pakistan.
- > Panama.
- > Papua New Guinea.
- > Peru.
- > Philippines.
- > Poland.
- > Portugal.
- > Republic of Korea.
- > Russian Federation.
- > Saudi Arabia.
- > Singapore.
- > Slovenia.
- > Spain.
- > Sweden.
- > Switzerland.
- > Thailand.
- > Uruguay.
- > Vanuatu.
- > Hong Kong.
- > Tunisia.
- > United States.
- > United Kingdom.
- > American Samoa.

The countries listed above need to train the following according to the different international codes that relates to the function-specific training for the transportation of Dangerous Goods:

- > IMDG Code (Marine): Classification system, ICAO Code (Air): General philosophy.
- > IMDG Code (Marine): Pack in packages, ICAO Code (Air): Limitations.
- > IMDG Code (Marine): Mark, label and placard, ICAO Code (Air): General requirements for shippers.
- > IMDG Code (Marine): Pack/unpack cargo transport units, ICAO Code (Air): Classification.
- > IMDG Code (Marine): Prepare transport documentation, ICAO Code (Air): List of dangerous goods.
- > IMDG Code (Marine): Offer for transport, ICAO Code (Air): General packaging requirements.
- > IMDG Code (Marine): Accept for transport, ICAO Code (Air): Packing instructions.
- > IMDG Code (Marine): Handle in transport, ICAO Code (Air): Labelling and marking.
- > IMDG Code (Marine): Prepare loading/stowage plans, ICAO Code (Air): Shipper's declaration and other relevant documentation.
- > IMDG Code (Marine): Load/unload from ships, ICAO Code (Air): Acceptance procedures.
- > IMDG Code (Marine): Carry, ICAO Code (Air): Recognition of undeclared dangerous goods.
- > IMDG Code (Marine): Emergency procedures, ICAO Code (Air): Storage and loading procedures, Pilots' notification, Provisions for passengers and crew, Emergency procedures.

The unit standards in this qualification deal with all the above competencies and are in line with the International Codes for Air and Sea.

The following websites displayed various reports on 'Freeway Traffic Management', but no "Qualification" could be identified to make a direct comparison with. The reports deal with issues of improved safety, optimisation of real capacity of highways and better service delivery to motorists. It also deals with highway maintenance procedures dealing with hazardous material incidents.

- > Transport Research Board: www.trb.org.
- > International codes on transportation of hazardous material and goods: <http://hazmat.dot.gov>.
- > Ministry of Transportation: Ontario: www.tc.gc.ca.

An attempt was made to do a comparison with a country with an emerging economy. There are no recognised "standards" for training in the handling and transportation of dangerous goods. South African based training institutions, offers training in the conveyance of dangerous goods in Nigeria, Zimbabwe and Botswana. The training material is based on the South African unit standard "Convey Dangerous Goods by Road".

Training material for the training of Dangerous Goods Safety Advisors was obtained from Belgium. The training was once again based on their international codes and regulations. A Dangerous Goods Safety Advisor in the European Union needs to do the following:

- > Monitor for compliance with the rules governing the transportation of dangerous goods.
- > Advise on the transport of dangerous goods.
- > Prepare annual training reports to the management of the company and/or local public authority, on the undertakings activities in the transportation of dangerous goods.

The duties also include monitoring the following practices and procedures relating to the relevant activities of the undertaking:

- > The procedures for compliance with the rules governing the identification of dangerous goods being transported.
- > The undertakings practice in taking account when purchasing means of transport of any special requirements in connection with the dangerous goods being transported.
- > The procedures for checking the equipment used in connection with the transport, loading or unloading of dangerous goods.
- > The proper training of the undertakings employees and the maintenance or records of such training.
- > The implementation of proper emergency procedures in the event of any accident or incident that may affect safety during the transport, loading or unloading of dangerous goods.
- > Investigating and where appropriate, preparing reports on serious accidents, incidents or serious infringements recorded during the transport, loading or unloading of dangerous goods.
- > The implementation of appropriate measures to avoid the recurrence of accidents, incidents or serious infringements.
- > Verification that employees involved in the transport, loading, or unloading of dangerous goods have detailed operational procedures and instructions.
- > The implementation of verification procedures to ensure the presence on board the means of transport of the documents and safety equipment which must accompany transport and the compliance of such documents and equipment with the regulations.
- > The implementation of verification procedures to ensure compliance with the rules governing loading and unloading.

The training material deals with the following:

- > Regulations regulating the transportation of dangerous goods.
- > Exemptions.
- > Appointment of safety advisors, their roles and functions.
- > Reports to management.
- > Principles of UN classifications system.
- > Hazards of each class.
- > Identification of hazards.
- > Marking, labelling and placarding.
- > Road operations in relation to the transportation of dangerous goods.
- > The nine hazard classes and their sub-divisions.
- > Checklists.
- > Storage/stowage of dangerous goods.
- > Annual audits.

During the development of this Qualification, representatives from Belgium participated in this project to share their expertise and their best practice.

Based on the above exercise this Qualification compares well with the training courses and international codes found. The only noticeable difference is the emphasis that the international courses give to understanding the 'codes and regulations' and learners obtaining this Qualification are likely to receive international recognition as these qualifications are linked to International Standards and best practice.

ARTICULATION OPTIONS

The 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.

This Qualification has articulation possibilities with the following Qualifications:

Horizontal articulation possibilities lie with other NQF Level 3 Qualifications and Unit Standards in the learning areas of:

- > National Certificate: Customs Clearing: NQF Level 4: ID: 22441.
- > National Certificate: Freight Forwarding: NQF Level 4: ID: 22443.
- > Further Education and Training Certificate: Road Transport Management in the Public Sector: NQF Level 4: ID: 49489.
- > Further Education and Training Certificate: Road Transport Supervision: NQF Level 4: ID: 48439.

Vertical progression can be achieved by embarking on the study of related NQF Level 4 Qualifications:

- > National Diploma: Freight Forwarding: NQF Level 5: ID: 22444.
- > National Certificate: Incident Management: NQF Level 5: ID: 49398
- > National Diploma: Freight Handling Logistics: NQF Level 5: ID: 14590.

MODERATION OPTIONS

- > Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor 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 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 ETQA's (including professional bodies); and in terms of the moderation guideline detailed immediately below.
- > 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.

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.

Formative assessment

The assessment criteria for formative assessment are described in the various unit standards. Formative assessment takes place during the process of learning and assessors should use a range of assessment methods and tools that support each other to assess total competence. These tools may include but are not limited to the following:

- > In-situ (on-the-job) observations.
- > Role-play simulations.
- > Structured group discussions.
- > Knowledge tests, exams, case studies, projects, registers, logbooks, workbooks.
- > Verbal report backs (presentations).
- > Portfolios of evidence.
- > Projects.
- > Experiential learning.
- > Working in teams.
- > Scenario sketching.

The assessment method and or tools used by the assessor must conform to the following criteria:

- > It must be fair in a sense that it does not hinder or advantage the learner.
- > It must be valid in a sense that it measures what it intends to measure.
- > It must be reliable in a sense that it is consistent and delivers the same output across a range of learners.
- > It must be practical in a sense that it takes into account the available financial resources, facilities, equipment and time.

Summative assessment

Summative assessment is carried out at the end of the learning programme to assess the acquired competencies of the learner. A detailed portfolio of evidence may be required to prove the practical, applied and foundational competencies of the learner.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

The following criteria should be applied by the relevant ETQA:

- > Relevant Qualification at NQF Level 5 or higher.
- > Minimum of 2 years' experience. The subject matter experience of the assessor can be established by recognition of prior learning.
- > Registration as an assessor with the relevant ETQA.

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	113852 Apply occupational health, safety and environmental principles	Level 3	10	Registered
Core	13224 Monitor the application of safety, health and environmental protection procedures	Level 4	4	Registered
Core	242657 Apply general management principles to the risk management function	Level 4	3	Recommended
Core	242658 Demonstrate knowledge and application of the nature of risk and the risk management process	Level 4	4	Recommended
Core	242665 Apply technical knowledge and skill in order to manage risk in occupational health and occupational hygiene	Level 4	8	Recommended
Core	113851 Manage the transportation of dangerous goods	Level 5	6	Registered
Core	115217 Deal with hazardous materials	Level 5	8	Registered
Core	115223 Demonstrate awareness and take initial actions at a hazardous materials incident	Level 5	8	Registered
Elective	123259 Convey dangerous goods by road	Level 3	4	Registered
Elective	242994 Handle and load dangerous goods for transportation by air	Level 3	2	Draft - Prep for P Comment
Elective	11261 Facilitate the final release and delivery of goods imported and exported by Airfreight	Level 4	5	Reregistered
Elective	242668 Demonstrate knowledge and application of the Occupational Health and Safety Act, 85 of 1993 (OHSA) (as amended) and the responsibilities of management in terms of the Act	Level 4	4	Recommended
Elective	242985 Package dangerous goods for transportation	Level 4	4	Draft - Prep for P Comment
Elective	242986 Accept and process dangerous goods for transportation by air	Level 4	6	Draft - Prep for P Comment
Elective	242987 Identify, pack, mark and label dangerous goods for transportation by air	Level 4	2	Draft - Prep for P Comment
Elective	242989 Effect procedures for carrying dangerous, hazardous and harmful cargoes at sea	Level 4	2	Draft - Prep for P Comment
Elective	242990 Load/unload dangerous goods for transportation by road	Level 4	10	Draft - Prep for P Comment
Elective	242991 Facilitate the forwarding and clearing of dangerous goods for transportation	Level 4	4	Draft - Prep for P Comment
Elective	242995 Pack, stow and segregate dangerous, hazardous and harmful cargoes for marine transportation	Level 4	5	Draft - Prep for P Comment
Elective	242996 Handle dangerous goods during warehousing and storage	Level 4	4	Draft - Prep for P Comment
Elective	242997 Identify and classify dangerous goods for transportation	Level 4	4	Draft - Prep for P Comment

Elective	242998 Plan proposed stowage and segregation for the transportation of dangerous goods at sea	Level 4	3	Draft - Prep for P Comment
Elective	242999 Respond to and clean up a spill	Level 4	4	Draft - Prep for P Comment
Elective	11268 Generate solutions to legal problems encountered in the carriage by air of internationally traded goods	Level 5	5	Reregistered
Elective	242988 Inspect and approve packaged goods for compliance in the transport of dangerous, hazardous and harmful cargoes by sea	Level 5	2	Draft - Prep for P Comment
Elective	242992 Monitor for compliance in the transportation of dangerous goods in the Port Environment	Level 5	8	Draft - Prep for P Comment
Elective	242993 Organise the movement of dangerous, hazardous and harmful cargoes	Level 5	2	Draft - Prep for P Comment
Fundamental	119457 Interpret and use information from texts	Level 3	5	Registered
Fundamental	119465 Write/present/sign texts for a range of communicative contexts	Level 3	5	Registered
Fundamental	119467 Use language and communication in occupational learning programmes	Level 3	5	Registered
Fundamental	119472 Accommodate audience and context needs in oral/signed communication	Level 3	5	Registered
Fundamental	7468 Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	Level 4	6	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	12154 Apply comprehension skills to engage oral texts in a business environment	Level 4	5	Reregistered
Fundamental	119459 Write/present/sign for a wide range of contexts	Level 4	5	Registered
Fundamental	119462 Engage in sustained oral/signed communication and evaluate spoken/signed texts	Level 4	5	Registered
Fundamental	119469 Read/view, analyse and respond to a variety of texts	Level 4	5	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Package dangerous goods for transportation

SAQA US ID	UNIT STANDARD TITLE		
242985	Package dangerous goods for transportation		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Transport and Logistics Operations	11		
UNIT STANDARD TYPE	ORGANISING 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

Identify and classify dangerous goods to be packed.

SPECIFIC OUTCOME 2

Assess packaging group of dangerous goods to be packed.

SPECIFIC OUTCOME 3

Obtain approval of packaging by competent/testing authority.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

Accept and process dangerous goods for transportation by air

SAQA US ID	UNIT STANDARD TITLE		
242986	Accept and process dangerous goods for transportation by air		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Transport and Logistics Operations		11	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Services	Transport, Operations and Logistics
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	6	Level 4	Regular

SPECIFIC OUTCOME 1

Interpret and apply the philosophy underpinning the carriage of dangerous goods by air.

SPECIFIC OUTCOME 2

Identify and apply the limitations associated with the carriage of dangerous goods by air.

SPECIFIC OUTCOME 3

Verify the classification of dangerous goods when accepting and processing dangerous goods for transportation by air.

SPECIFIC OUTCOME 4

Compile and verify documentation.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Identify, pack, mark and label dangerous goods for transportation by air

SAQA US ID	UNIT STANDARD TITLE		
242987	Identify, pack, mark and label dangerous goods for transportation by air		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Transport and Logistics Operations		11	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Services	Transport, Operations and Logistics
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	2	Level 4	Regular

SPECIFIC OUTCOME 1

Identify dangerous goods for transportation by air.

SPECIFIC OUTCOME 2

Identify and apply packaging requirements for the transportation of dangerous goods by air.

SPECIFIC OUTCOME 3

Identify and apply the marking and labelling of dangerous goods for transportation by air.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

4

Inspect and approve packaged goods for compliance in the transport of dangerous, hazardous and harmful cargoes by sea

SAQA US ID	UNIT STANDARD TITLE		
242988	Inspect and approve packaged goods for compliance in the transport of dangerous, hazardous and harmful cargoes by sea		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Transport and Logistics Operations	11		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Services	Transport, Operations and Logistics	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	2	Level 5	Regular

SPECIFIC OUTCOME 1

Inspect container/magazine for suitability.

SPECIFIC OUTCOME 2

Verify documentation.

SPECIFIC OUTCOME 3

Check vessel for suitability and segregation.

SPECIFIC OUTCOME 4

Issue certificate of compliance.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

5

Effect procedures for carrying dangerous, hazardous and harmful cargoes at sea

SAQA US ID	UNIT STANDARD TITLE		
242989	Effect procedures for carrying dangerous, hazardous and harmful cargoes at sea		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Transport and Logistics Operations		11	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Services	Transport, Operations and Logistics
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	2	Level 4	Regular

SPECIFIC OUTCOME 1

Receive booking request for the transportation of dangerous, hazardous and harmful cargoes at sea.

SPECIFIC OUTCOME 2

Complete documentation.

SPECIFIC OUTCOME 3

Accept dangerous, hazardous and harmful cargoes in port.

SPECIFIC OUTCOME 4

Stow/segregate and secure dangerous, hazardous and harmful cargoes on vessel.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

6

Load/unload dangerous goods for transportation by road

SAQA US ID	UNIT STANDARD TITLE		
242990	Load/unload dangerous goods for transportation by road		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Transport and Logistics Operations	11		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Services	Transport, Operations and Logistics	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 4	Regular

SPECIFIC OUTCOME 1

Adhere to standard operating procedures and applicable requirements of South African National Standards 10231 for the loading/unloading of packaged goods and bulk.

SPECIFIC OUTCOME 2

Identify required danger warning diamond, warning placards, tremcards and dangerous goods declaration.

SPECIFIC OUTCOME 3

Comply with standard operating procedures and South African National Standards 10231 after loading/unloading of dangerous goods.

SPECIFIC OUTCOME 4

Comply with contents of operational arrangement.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

7

Facilitate the forwarding and clearing of dangerous goods for transportation

SAQA US ID	UNIT STANDARD TITLE		
242991	Facilitate the forwarding and clearing of dangerous goods for transportation		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Transport and Logistics Operations	11		
UNIT STANDARD TYPE	ORGANISING 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

Arrange and evaluate relevant documentation relating to the movement of dangerous goods for transportation.

SPECIFIC OUTCOME 2

Identify and classify dangerous goods.

SPECIFIC OUTCOME 3

Facilitate the transportation of dangerous goods.

SPECIFIC OUTCOME 4

Organise storage for dangerous goods.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

8

Monitor for compliance in the transportation of dangerous goods in the Port Environment

SAQA US ID	UNIT STANDARD TITLE		
242992	Monitor for compliance in the transportation of dangerous goods in the Port Environment		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Transport and Logistics Operations		11	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Services	Transport, Operations and Logistics
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 5	Regular

SPECIFIC OUTCOME 1

Receive applications from stakeholders to move Dangerous Goods within the Port Area.

SPECIFIC OUTCOME 2

Verify the applications for the movement of Dangerous Goods.

SPECIFIC OUTCOME 3

Approve/reject applications from stakeholders.

SPECIFIC OUTCOME 4

Receive tanker information as "tanker arrival notice" to ensure compliance.

SPECIFIC OUTCOME 5

Apply control measures to ensure procedures for optimum safety.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

9

Organise the movement of dangerous, hazardous and harmful cargoes

SAQA US ID	UNIT STANDARD TITLE		
242993	Organise the movement of dangerous, hazardous and harmful cargoes		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Transport and Logistics Operations		11	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Services	Transport, Operations and Logistics
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	2	Level 5	Regular

SPECIFIC OUTCOME 1

Arrange relevant documentation relating to the movement of dangerous, hazardous and harmful cargoes.

SPECIFIC OUTCOME 2

Organise the booking of storage for dangerous, hazardous and harmful cargoes.

SPECIFIC OUTCOME 3

Arrange the carriage of dangerous, hazardous and harmful cargoes according to the relevant classification and documentation.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

10

Handle and load dangerous goods for transportation by air

SAQA US ID	UNIT STANDARD TITLE		
242994	Handle and load dangerous goods for transportation by air		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Transport and Logistics Operations	11		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Services	Transport, Operations and Logistics	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	2	Level 3	Regular

SPECIFIC OUTCOME 1

Accept and store dangerous goods for transportation by air.

SPECIFIC OUTCOME 2

Load/off-load and secure dangerous goods for transportation by air.

SPECIFIC OUTCOME 3

Inspect dangerous goods for transportation by air.

SPECIFIC OUTCOME 4

Provide information to relevant role-players.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

11

Pack, stow and segregate dangerous, hazardous and harmful cargoes for marine transportation

SAQA US ID	UNIT STANDARD TITLE		
242995	Pack, stow and segregate dangerous, hazardous and harmful cargoes for marine transportation		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Transport and Logistics Operations		11	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Services	Transport, Operations and Logistics
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 4	Regular

SPECIFIC OUTCOME 1

Explain and apply packaging and labelling requirements in terms of International Maritime Dangerous Goods Code (IMDG) requirements.

SPECIFIC OUTCOME 2

Stow dangerous, hazardous and harmful cargoes.

SPECIFIC OUTCOME 3

Segregate dangerous, hazardous and harmful cargoes.

SPECIFIC OUTCOME 4

Verify transport documentation for dangerous, hazardous and harmful cargoes.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

12

Handle dangerous goods during warehousing and storage

SAQA US ID	UNIT STANDARD TITLE		
242996	Handle dangerous goods during warehousing and storage		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Transport and Logistics Operations		11	
UNIT STANDARD TYPE		ORGANISING 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

Identify and classify dangerous goods in accordance with documentation, packaging and labelling.

SPECIFIC OUTCOME 2

Handle and store classified goods and substances.

SPECIFIC OUTCOME 3

Prepare the dangerous goods for transportation.

SPECIFIC OUTCOME 4

Take appropriate actions in the event of accidents in the handling of dangerous goods.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

13

Identify and classify dangerous goods for transportation

SAQA US ID	UNIT STANDARD TITLE		
242997	Identify and classify dangerous goods for transportation		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Transport and Logistics Operations	11		
UNIT STANDARD TYPE	ORGANISING 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

Receive sample of potential substance.

SPECIFIC OUTCOME 2

Facilitate the analysis and assessment of a sample based on United Nations criteria for classification and identification.

SPECIFIC OUTCOME 3

Facilitate the development of the material safety data sheet (MSDS) and transport documentation relevant to the substance.

SPECIFIC OUTCOME 4

Identify and allocate packaging requirements according to substance if classified.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

14

Plan proposed stowage and segregation for the transportation of dangerous goods at sea

SAQA US ID	UNIT STANDARD TITLE		
242998	Plan proposed stowage and segregation for the transportation of dangerous goods at sea		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Transport and Logistics Operations	11		
UNIT STANDARD TYPE	ORGANISING 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

Stow and segregated products in conformity with International Maritime Dangerous Goods code and vessel certificate of compliance for carriage of dangerous goods.

SPECIFIC OUTCOME 2

Interpret requirements to develop stowage plan.

SPECIFIC OUTCOME 3

Develop stowage plan.

SPECIFIC OUTCOME 4

Prepare for an emergency and contingency plan for carriage of dangerous, hazardous and harmful cargoes by sea.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

15

Respond to and clean up a spill

SAQA US ID	UNIT STANDARD TITLE		
242999	Respond to and clean up a spill		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Transport and Logistics Operations	11		
UNIT STANDARD TYPE	ORGANISING 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

Identify and assess the risk.

SPECIFIC OUTCOME 2

Confine a spill.

SPECIFIC OUTCOME 3

Evaluate the incident and implement clean up.

SPECIFIC OUTCOME 4

Complete required documentation and reports.

No. 1156

24 November 2006

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 Helpdesk: 086 010 3188



13 November 2006

The South African Qualifications Authority in terms of the National Standards Body Regulations (Government Gazette No. 08787) published on 28 March 1998, hereby gives notice of additional names for the **Standards Generating Body for Traditional Health Practitioners** in Organising Field 09 (Health Sciences and Social Services):

SGB for Traditional Health Practitioners: Registered: 28 August 2006
 Registration End Date: 28 August 2009
 Decision Number: SGB / 09 015

NOMINEE	WORKPLACE	NOMINATING BODY	EXPERIENCE / QUALIFICATIONS
Gebisa, E	Self-Employed	Mothong African Medicine Village	<ul style="list-style-type: none"> • Grade 12 • 20 years' experience in traditional healing


S BHIKHA
 Director: Standards Setting and Development

SAQA'S MISSION

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13 November 2006

The South African Qualifications Authority in terms of the National Standards Body Regulations (Government Gazette No. 08787) published on 28 March 1998, hereby gives notice of additional names for the **Standards Generating Body for Pharmacy** in Organising Field 09 (Health Sciences and Social Services):

SGB for Pharmacy: Registered: 26 April 2004
Registration End Date: 28 April 2007
Decision Number: NSB 09 0132/04 P

NOMINEE	WORKPLACE	NOMINATING BODY	EXPERIENCE / QUALIFICATIONS
Putter, S J	SJ Putter Consulting, Port Elizabeth	National Department of Health: Cluster Pharmaceutical Policy and Planning	<ul style="list-style-type: none"> • M Pharmacy • M Public Administration • 8 years' clinical pharmacy experience, including 4 years' specialization in oncology medication • 8 years' experience as professional development officer at SA Pharmacy Council • 2 years' experience in project planning and delivery
Raftesath, B E	Virtual Care Pharmacy, Goodwood	Pharmaceutical Society of South Africa	<ul style="list-style-type: none"> • M Pharmacy • SA Pharmacy Council accredited assessor • 10 years' clinical pharmacy experience • 3 years' experience with medical schemes • 3 years' experience in pharmacy education


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10 November 2006

The South African Qualification Authority in terms of the National Standard Body Regulations (Government Gazette No. 18787) published on 28 March 1998, hereby gives notice of additional names for the following Standard Generating Body:

**SGB for Traffic, and Traffic Related and Local Government Law Enforcement
 Organising Field 08: Law, Military Science and Security**

NOMINEE	WORKPLACE	NOMINATING BODY	EXPERIENCE / QUALIFICATIONS
G Breedt	Nelson Mandela Bay Municipal Traffic and Licensing Department	Nelson Mandela Bay Municipal Traffic and Licensing Department	<ul style="list-style-type: none"> • Certificate in Policing • National Diploma: Police Administration Completed certificate in: <ul style="list-style-type: none"> • Interpretation of Statutes • Writing of By-Laws • Advanced Administrative Law • Management Development • Riot and Crowd Control Experience as: <ul style="list-style-type: none"> • Training Officer • Firearms Instructor

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10 November 2006

The South African Qualification Authority in terms of the National Standard Body Regulations (Government Gazette No. 18787) published on 28 March 1998, hereby gives notice of additional names for the following Standard Generating Body:

SGB Security
Organising Field 08: Law, Military Science and Security

NOMINEE	WORKPLACE	NOMINATING BODY	EXPERIENCE / QUALIFICATIONS
A Maswanganye	National Department of Transport	National Department of Transport	<ul style="list-style-type: none"> • Bachelor of Commerce • Maritime Security Train the Trainer course. • Certificate in Strategic Planning, Budgeting and Performance Management • Certificate in Maritime Security • Certificate in Research Skills • Certificate in Port State Control for Officers • Certificate in Project Management • Certificate in Arbitration Skills <p>4 Years experience within the Maritime environment 5 Years experience within the Labour environment</p>

Mr A Maswanganye replaces Mr K Rampono.

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10 November 2006

The South African Qualification Authority in terms of the National Standard Body Regulations (Government Gazette No. 18787) published on 28 March 1998, hereby gives notice of additional names for the following Standard Generating Body:

**SGB for Visible Policing
 Organising Field 08: Law, Military Science and Security**

NOMINEE	WORKPLACE	NOMINATING BODY	EXPERIENCE / QUALIFICATIONS
J Booyesen	South African National Defence Force	Military Police Agency	Completed courses in: <ul style="list-style-type: none"> • Curriculum Design • Management of Training • Assessment Experience in: <ul style="list-style-type: none"> • Weapon Training • Correctional Facilities • Combat Training • Investigations • Peace Support Operations • Unarmed Self Defence • Special Weapons and Tactics
A Pretorius	ITA Firearm Training	SGB Security	<ul style="list-style-type: none"> • Qualified moderator. • Appointed verifier. • Certified National Rifle Association Training Counsellor, • Firearms Instructor • Law-Enforcement Officer • SWAT Instructor • Training Counsellor

S BHIKHA
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10 November 2006

The South African Qualification Authority in terms of the National Standard Body Regulations (Government Gazette No. 18787) published on 28 March 1998, hereby gives notice of additional names for the following Standard Generating Body:

**SGB for Legal Education and Training
 Organising Field 08: Law, Military Science and Security**

NOMINEE	WORKPLACE	NOMINATING BODY	EXPERIENCE / QUALIFICATIONS
JT Molefe	South African Police Service	South African Police Service	<ul style="list-style-type: none"> • BA • LLB • Admitted Advocate of the High Court • Over 8 years experience within the Legal Services field of the South African Police Service
SM Madingwane	South African National Defence Force	Military Legal Services Head Offices	<ul style="list-style-type: none"> • Teachers Diploma • 5 Years experience within the field of Military Legal Services

S BHIKHA
DIRECTOR: STANDARDS SETTING AND DEVELOPMENT

SAQA'S MISSION

"To ensure the development and implementation of a National Qualifications Framework which contributes to the full development of each learner and to the social and economic development of the nation at large"

No. 1157

24 November 2006

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

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

Mining and Minerals

registered by Organising Field 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.saqa.org.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the qualification and unit standards should reach SAQA at the address **below and no later than 23 December 2006**. All correspondence should be marked **Standards Setting – SGB for Mining and Minerals** and addressed to

The Director: Standards Setting and Development
SAQA

Attention: Mr. D. Mphuthing

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DR. S BHIKHA

DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

Further Education and Training Certificate: Jewellery Designing

SAQA QUAL ID	QUALIFICATION TITLE		
57875	Further Education and Training Certificate: Jewellery Designing		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Mining and Minerals	6		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD	
Further Ed and Training Cert	Manufacturing, Engineering and Technology	Fabrication and Extraction	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	146	Level 4	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

This qualification will enable qualifying learners with the necessary knowledge, understanding and competence in jewellery design. Learners credited with this qualification are able to design jewellery utilising advanced jewellery technology.

The ability of the industry to develop its potential in the beneficiation of raw materials is dependent upon the development of these skills to provide the platform for expansion and to have a base of skilled workers for further development. The Jewellery Manufacturing Industry relies on competent jewellery manufacturers and setters, who in turn rely on jewellery designers to provide them with fashionable and practical designs.

Learners credited with this qualification are able to:

- > Communicate and solve problems within a jewellery design environment.
- > Comply with workplace practices regarding Occupational Health and Safety.
- > Draw and design jewellery using various design processes and techniques.
- > Identify and grade a gemstone for buying and selling purposes in the jewellery market.

Rationale:

Jewellery designers, manufacturers and setters work closely together to create, produce and market jewellery. For this reason, the South African Jewellery Manufacturing Industry has identified Jewellery Design as a critical skill. Rapid technological development has necessitated the need for high level skilled jewellery designers in South Africa.

As 80% of commercial jewellery in South Africa is imported there are great opportunities for the the Jewellery Manufacturing Industry in South Africa to design and manufacture jewellery for the South African market and abroad. The competitive jewellery market requires products that follow and set fashion trends, are of a high quality and are well marketed.

Currently there is a shortage of well rounded jewellery designers that can meet the industry needs and grow the South African jewellery market. This qualification will produce more skilled designers who, in conjunction with jewellery manufacturers and setters, will contribute to developing the South African jewellery market by producing quality products which can compete locally and in the global market. This qualification will increase the technical proficiency and size of the workforce; which would then enable industry to satisfy the local demands for jewellery without having to rely on imports, thereby decreasing the importation of cheap jewellery which is a threat to the Industry.

The majority of the learners entering this qualification are likely to be working in the jewellery industry as

diamond and gemstone setters or jewellery manufacturing operators.

The benefits of achieving a recognised qualification may also draw those already working as Jewellery designers formally or informally and who will benefit from the opportunities of assessment and subsequent recognition presented by RPL. (Recognition of Prior Learning).

In some cases learners may come from other industries, however they would have to become familiar with the basic operations associated with Jewellery design before they can proceed with this qualification.

A typical learning pathway for learners with this qualification would be the GETC: Mining and Minerals Processes (Jewellery stream), National Certificate: Minerals Processing, NQF Level 2, National Certificate: General Draughting, NQF Level 3. Learners can then progress onto the National Certificate: Jewellery Production Management, NQF Level 5.

Qualifying learners will be appointed as jewellery designers working in conjunction with other jewellery manufacturing operators under the guidance of an experienced mentor. This qualification provides the learner with the knowledge of and skills in jewellery design and techniques necessary for the design of jewellery. The elective unit standards provide the learner with knowledge in diamond and gemstone setting and jewellery manufacture, which could provide a basis for further specialisation in those areas.

Jewellery design is based on information from the Goldsmith in terms of the design specifications. The designer will guide the Goldsmith in terms of the combination of stones and setting lay out, metals and other precious materials. This qualification will provide learners with the knowledge and skills necessary for jewellery design.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

> Communication and Mathematical Literacy at NQF Level 3.

Recognition of Prior Learning:

This qualification can be achieved wholly or in part through recognition of prior learning in terms of the criteria laid out.

Evidence can be presented in a variety of forms, including international or previous local qualifications, reports, testimonials mentioning functions performed, work records, portfolios, videos of practice and performance records.

Access to the qualification:

Access is open; however it is preferable that learners have completed the National Certificate: General Draughting, NQF Level 3.

QUALIFICATION RULES

Fundamental

> All 56 credits must be achieved.

Core

> All 80 credits must be achieved.

Electives

> 10 credits may be selected from the list of elective unit standards to make up a minimum of 146 credits for the qualification.

EXIT LEVEL OUTCOMES

1. Communicate and solve problems in the jewellery design process.
2. Adhere to the Occupational Health and Safety requirements.
3. Identify and grade a gemstone for buying and selling within the jewellery industry.
4. Draw and design jewellery using various design processes and techniques.

Consistency of Exit Level Outcomes with Critical Cross field Outcomes:

In accordance with SAQA guidelines, all unit standards include the assessment of relevant critical cross-field outcomes. Consequently, Exit Level Outcomes are consistent with critical cross-field outcome requirements.

The following CCFO's have been addressed in this qualification as per the unit standards outlined.

SAQA Critical Cross-Field Outcomes; Equivalent Exit Level Outcome

- > Identifying and solving problems in which responses display that responsible decisions using critical thinking have been made; Equivalent Exit Level Outcome's 1, 2, 3,4.
- > Working effectively with others as a member of a team, group, organization and community; Equivalent Exit Level Outcome's 1; 2, 3,4.
- > Organising and managing oneself and one's activities responsibly and effectively; Equivalent Exit Level Outcome's 1, 2, 3.
- > Collecting, analyzing, organizing and critically evaluating information; Equivalent Exit Level Outcome's 1, 2, 3.
- > Communicating effectively using visual, mathematical and/or language skills; Equivalent Exit Level Outcome's 3, 4.
- > Using science and technology effectively and critically, showing responsibility toward the environment and health of others; Equivalent Exit Level Outcome's 3, 4.
- > Demonstrating an understanding of the world as a set of related systems by recognizing that problem contexts do not exist in isolation; Equivalent Exit Level Outcome's 3, 4.

ASSOCIATED ASSESSMENT CRITERIA

1.

- > Oral communication skills is maintained and adapted as required to promote effective interaction in the setting of diamonds and gemstones.
- > Written communication is conducted at an appropriate level for designated target audiences.
- > Read and interpret the design in accordance with the design specifications.

Range: The design refers to but not limited to:

- > Drawing.
- > Photograph.
- > Model.

2.

- > Occupational health and safety requirements are adhered to at all times within the jewellery designing environment.
- > Hazardous conditions are identified and reported in accordance with specified requirements.

3.

- > The process for identifying gemstones for the utilisation in the jewellery industry is explained in accordance with specified requirements.
- > Gemstones are evaluated using grading techniques in accordance with industry standards.
- > Grading techniques are applied in the processing of gemstones in accordance with the specified industry requirements.
- > Tools and equipment used to identify and grade gemstones in accordance with gemstone processing regulations.

4.

- > The process of jewellery design is explained in accordance with specified requirements.
- > Jewellery is designed in accordance with design specifications.

Range: The design refers to but not limited to:

- > Drawing.
- > Photograph.
- > Model.

- > Jewellery design techniques are applied in the design process in accordance with the design

specifications.

> Tools and equipment are used to design the jewellery in accordance with manufacturer's specifications.

Integrated Assessment:

Integrated assessment at the level of the qualification provides an opportunity for learners to show they are able to integrate concepts, actions and ideas achieved across a range of unit standards and contexts.

Integrated assessment must evaluate the quality of observable performance as well as the thinking behind the performance, and 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:

> Observing the learner while designing and manufacturing of jewellery: (This includes gem setting and interaction with clients, colleagues and management).

> Asking questions regarding the processes underlying a wide range of activities such as:

> Jewellery manufacture.

> Gem setting.

> Design and.

> Gemmology.

and initiating short discussions to test understanding of

> House keeping.

> Productivity.

> Looking at the design/s or photos in lieu thereof, records such as employment history and references, progress reports and statement of competency, other evidence in the portfolio and reviewing previous assessments.

In some cases inference will be necessary to determine competence depending on the nature and context within which performance takes place, particularly when looking at the jewellery design, to see whether the requirements have been met.

The design of jewellery entails:

> Applied Numeracy.

> The rendering of technical drawings to specified requirements.

> Calculate the costing of materials.

> Applied communication.

> Liaising with the clients and key people in the design process.

> Problem solving.

> Combining techniques, materials and processes to design innovative variations of jewellery.

> Design standard forms of jewellery using unique and innovative processes, techniques and tools.

> Troubleshooting.

> Improving productivity.

It is necessary to ensure that the fundamental part of the qualification is also targeted to ensure that while the competence may have been achieved in a particular context, learners are able to apply it in a range of other contexts and for further learning. The assessment should also ensure that all the critical cross-field outcomes have been achieved.

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 workplace-based qualification, evidence from other areas of endeavour may be introduced if pertinent to any of the exit-level outcomes. The assessment process should cover both the explicit tasks required for the qualification as well as the understanding of the concepts and principles that underpin the activities associated with the jewellery design process.

INTERNATIONAL COMPARABILITY

A search was conducted for possible courses and/or qualifications existing in countries that are considered world leaders in jewellery design and manufacture as well as countries on the African continent.

The structures found in other countries do not necessarily match the South African design of separate qualifications for design, manufacturing and setting respectively. For that reason the research has been reflected collectively as it is relevant to the respective qualifications proposed.

Courses and qualifications were analysed from a number of countries:

- > America (one of the strongest economies in the world and a recognised producer of jewellery).
- > India (a growing economy which will soon be one of the strongest in the world, and widely recognised for the proficiency of the jewellery industry).
- > Hong Kong (a strong economy which is strongly export oriented).
- > Thailand (well renowned for its jewellery industry).

International skills programmes, qualifications and other training interventions were investigated to ensure that the proposed FETC qualification structure and unit standards are comparable in terms of level, scope of qualification and competencies covered. The qualifications and/or programmes were selected based on proven best practice within the field of the Jewellery Design.

Hong Kong: (http://www.vtc.edu.hk/prospectus/eng/course.php?action_type=detail&course_id=200)

- > Craft Certificate in Jewellery.

Course Aims:

The course is designed to train and to provide qualified personnel for Jewellery industry. It emphasizes theoretical and practical knowledge in order to train up fully competent students to meet the employers' needs. The course covers the fundamental concept of design in relation to Jewellery making in Hong Kong. It provides students with the basic knowledge of modern Jewellery making, the elements of Jewellery craft and Jewellery design.

Course outlines:

- > Jewellery Making.
- > Jewellery and Technical Drawing.
- > Materials and Processes.
- > Computer Fundamentals in Jewellery.
- > Materials and Science.
- > Jewellery Illustration, Computer Application in Jewellery.
- > Design Studies.
- > Computer Aided Design in Jewellery.
- > Introduction To Gemmology.
- > Technical Communications.

This is a 3 year course offered by the Vocational Training Council. The outcomes and scope of competencies covered in the certificate compare favourably with the proposed FETC qualification; however no judgement could be made on the level of the certificate.

- > School for art and Technical Education in Jewellery - Hong Kong.

Certificate in Jewellery Design.

- > (<http://www.satej.com/Jeweller/courses.htm#Top>).

This is four-month short-term course is introduced for people who want to pursue conventional jewellery designing. At the end of the course, the students are able to -

- > Design jewellery on paper using the most advanced rendering techniques.
- > Understand conventional jewellery manufacturing processes.

Some key roles and competencies were found in the module - design jewellery on paper using the most advanced rendering techniques; however no judgement could be made on the level and depth of the outcomes.

America: (<http://www.jdti.com/jdti111.htm>)

> Certificate Programme in Jewellery Designing.

Learners will learn how to communicate a design idea through different presentation techniques, understand the evolution of jewellery and the present day market needs. Discover the fire of diamonds and the charm of coloured stones. The course also offers an opportunity to design your own collections.

Programme contents:

- > Drawing Skills.
- > Colour Science.
- > Form & Space.
- > Jewellery through the ages.
- > Know the Gems (diamonds, precious & semiprecious stones).
- > Technical Drawing.
- > Rendering Techniques.
- > Design Methodology.
- > Understanding Jewellery Markets - Domestic & International.
- > Jewellery Forecast.
- > Design Project - I (Craft Based).
- > Design Project - II (Technique Based).
- > Design Project - III (Jewellery Based).
- > Study of Jewellery Manufacturing Techniques.

Outcomes or competencies identified in the above Certificate is generally quite comparable to the South African qualification in terms of range of competencies covered. The certificate course is full time over six months and there are separate courses available on gemstone identification and grading.

Thailand: Gemmological Institute of America (GIA) Thailand

> (http://www.git.or.th/eng/eng_services/eng_training_center/eng_designing_courses.htm#).

> (http://www.gia.edu/education/31732/jewelry_manufacturing_arts_program_descriptions.cfm).

> Jewellery Design Course (Advanced Level).

Course content:

- > Emphasis on more complex design drawing.
- > Designing for gem and jewelry industry.
- > Practice in using markers instead of water color.
- > Price calculation and designing to meet the objectives of usage.
- > Improved understanding about matching colors with designs in appropriate and efficient manner.
- > Applied Jewellery Arts Diploma Program. The curriculum covers:
 - > Learn to illustrate shape, form, and texture of metal.
 - > Learn leading-edge 3-D technology to design jewellery using CAD (computer aided design) software.
 - > Create a wide variety of designs in wax.
 - > Use your own designs to make complete models for casting and mold making.
 - > Explore the art of vulcanized rubber and R.T.V. (room temperature vulcanizing) mold making and cutting techniques.
 - > Learn the art of cutting a mold.

Similar competencies were found and the outcomes of the programmes match closely with the outcomes of the unit standards covered in this FETC.

India: (<http://www.ensign.in/learningsolution/?pageurl=Certificate%20Programmes>)

> Certificate Programme in Basic Jewellery Designing offered by the Jewellery Design and Technology Institute.

Course Outline:

- > Visualization & Representation.
- > Technical Drawing Geometry.
- > Introduction to Color.

- > Rendering Techniques.
- > Visual Studies.
- > Design Methodology.
- > Design Process and Prototyping in Paper.
- > Knowledge of Gem.
- > Lecture & demonstration of basic Jewellery making techniques.
- > Personality Development.
- > Self Grooming.
- > Diction.
- > Photography.
- > Final Design Project.

This course is offered on a 3 month full time basis. The content covered in this course is similar to the outcomes and competencies within this FETC but at a much lower level.

> Art and Design Institute offer courses in Art and design institute - affiliated to Bangalore University. Govt of Karnataka.

Jewellery Designing Part 1:

- > Introduction.
- > Media Research, Elements & Principles of Design, Colours & Texture.
- > Elements & Applications of technical drawing.
- > Drawing front & side views of rings, bracelets, pendants & necklace, drawing stone cuts, colouring metals, studded jewellery.
- > Project Work: Portfolio (Basic compilation without CAD designs).

Gemology:

- > Introduction.
- > Basic qualities of a gem, methods employed in gem mining.
- > Physical properties, optical properties & optical effects in gem stones.
- > Theory of gem cutting techniques, crystallography and applications in Gemology.
- > Instruments in Gem Identification - techniques, limitations & precautions.
- > Synthetic, composites, imitation gem stones & plastics, treatment of gemstones.
- > Systematic identification of gemstone groups, individual stones & their simulants.

Diamond Grading and Identification:

- > Introduction.
- > Uniqueness of diamond among gems.
- > Theory of journey of diamond from the mines to cutter, theory of cutting & polishing process.
- > Study of round brilliant cut, basics of polished diamond grading, grading using international standards, history of cuts.
- > 4 C'S: Grading for Colour, Clarity, Cut, and Carat.
- > Identification of diamond & diamond simulants.

Jewellery Designing Part II:

- > Jewellery History, Ancient World, Byzantium age, Renaissance, Art Nouveau, Art Deco and Contemporary.
- > Corel Draw, Computer Aided Designing using Precious CAD - learning the basic functions, moving from simple 3-D modelling to Jewellery Designing.
- > Creative usage of stones with special properties in jewellery, exposure to types of gems, colour variations, importance of gemstones, durability in jewellery. Jewellery & gemstones care:
- > Market study of Jewellery houses - Indian - South, North, East & West & International.
- > Project work: Portfolio (Advanced compilation with CAD designs).

Rough Diamond Assortment

- > Theory: Sorting of diamonds in the rough stage, central sorting office, sizes & melee.
- > Planning, marking, cleaving, sawing, polishing, sorting bench, Formula for valuation.
- > Practical: Sorting for size, quality, purity & colour.

Similar competencies were found and the outcomes of the courses offered here match closely with the outcomes and key competencies of the unit standards in draw and design, the historical development of

jewellery, using 3D computer programmes to produce 3D drawings and Grade and Identify gemstones covered in this FETC.

Summary:

The FETC Jewellery Design Technology compares favourably with the relevant components of a wide selection of international qualifications, programmes, courses identified above. Where outcomes or competencies were identified within the international qualifications, programmes or courses, they are generally quite comparable to the South African qualification in terms of competencies covered.

It is believed that this qualification will render a useful contribution to developing competent jewellery designers who can help the South African jewellery industry become globally competitive.

ARTICULATION OPTIONS

This qualification allows for both vertical and horizontal articulation.

Vertical articulation exists with:

- > National Certificate: Jewellery Production Management NQF Level 5
A relevant qualification is still in the design phase.

Horizontal articulation exists with:

- > FETC: Jewellery Manufacturing Operations NQF Level 4, NLRD ID: 57876.
- > FETC: Jewellery Setting Processes NQF Level 4.
- > FETC: Computer Aided Drawing Office Practice NQF Level 4, NLRD ID: 50018

MODERATION OPTIONS

> Anyone assessing a learner or moderating the assessment of a learner against the qualification must be registered as an assessor with the relevant Education, Training, Quality, Assurance (ETQA) Body, or with an ETQA that has a 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 Education, Training, Quality, Assurance (ETQA) Body, or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.

> Assessment and moderation of assessment will be overseen by the relevant Education, Training, Quality, Assurance (ETQA) Body, or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.

> Moderation must include both internal and external moderation of assessments, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described in the associated unit standards.

> 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

Assessors should be in possession of:

- > An appropriate qualification at level 5 or higher, and preferably relevant workplace practical experience.
- > Registration as an assessor with the relevant ETQA.

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	9647 Draw and design jewellery	Level 3	15	Reregistered
Core	9650 Demonstrate appropriate product knowledge to enable working in a jewellery environment	Level 3	11	Reregistered

Core	243002 Use a 3D computer programme as a design- tool to produce drawings to specifications	Level 5	12	Draft - Prep for P Comment
Core	243005 Describe and understand metallurgical principles for jewellery manufacture	Level 5	12	Draft - Prep for P Comment
Core	243006 Grade a gemstone	Level 5	8	Draft - Prep for P Comment
Core	243007 Demonstrate an understanding of the historical developments of jewellery	Level 5	12	Draft - Prep for P Comment
Core	243008 Identify a gemstone	Level 5	10	Draft - Prep for P Comment
Elective	9648 Manufacture jewellery for single faceted stone settings	Level 3	21	Reregistered
Elective	15264 Make and use repousse and chasing punches	Level 3	20	Registered
Elective	15278 Produce a mould of a piece of jewellery or related artefact for reproduction	Level 3	10	Registered
Elective	243000 Manufacture jewellery	Level 3	7	Draft - Prep for P Comment
Elective	9638 Set stones in multiple claw or wire settings	Level 4	15	Reregistered
Elective	9642 Set faceted stones in multiple tube settings	Level 4	15	Reregistered
Elective	9643 Set faceted stones in channel settings	Level 4	18	Reregistered
Elective	9644 Tension set a single faceted stone	Level 4	2	Reregistered
Elective	9645 Flush-set faceted stones	Level 4	15	Reregistered
Elective	15268 Forge metal to manufacture jewellery	Level 4	21	Registered
Elective	243001 Pave- and star-set faceted stones	Level 4	15	Draft - Prep for P Comment
Elective	243003 Manufacture and repair complicated jewellery	Level 4	23	Draft - Prep for P Comment
Fundamental	119457 Interpret and use information from texts	Level 3	5	Registered
Fundamental	119465 Write/present/sign texts for a range of communicative contexts	Level 3	5	Registered
Fundamental	119467 Use language and communication in occupational learning programmes	Level 3	5	Registered
Fundamental	119472 Accommodate audience and context needs in oral/signed communication	Level 3	5	Registered
Fundamental	7468 Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	Level 4	6	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	12417 Measure, estimate & calculate physical quantities & explore, critique & prove geometrical relationships in 2 and 3 dimensional space in the life and workplace of adult with increasing responsibilities	Level 4	4	Reregistered
Fundamental	119459 Write/present/sign for a wide range of contexts	Level 4	5	Registered
Fundamental	119462 Engage in sustained oral/signed communication and evaluate spoken/signed texts	Level 4	5	Registered
Fundamental	119469 Read/view, analyse and respond to a variety of texts	Level 4	5	Registered
Fundamental	119471 Use language and communication in occupational learning programmes	Level 4	5	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

Further Education and Training Certificate: Jewellery Manufacturing Operations

SAQA QUAL ID	QUALIFICATION TITLE		
57876	Further Education and Training Certificate: Jewellery Manufacturing Operations		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Mining and Minerals		6	
QUAL TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD
Further Ed and Training Cert		Manufacturing, Engineering and Technology	Fabrication and Extraction
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	150	Level 4	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

This qualification will enable qualifying learners with the necessary knowledge, understanding and competence to conduct the operations associated with the manufacture of jewellery. It will include working with metals in jewellery manufacture and knowledge of the non-specialised areas like design and stone setting. Learners credited with this qualification are able to manufacture jewellery utilising advanced jewellery technology.

The ability of the industry to develop its potential in the beneficiation of raw materials is dependent upon the development of these skills to provide the platform for expansion and to have a base of skilled workers for further development.

Learners credited with this qualification are able to:

- > Communicate and solve problems within a jewellery manufacturing environment.
- > Prepare materials for the manufacturing of jewellery.
- > Comply with workplace practices regarding Occupational Health and Safety.
- > Manufacture jewellery using various manufacturing processes and techniques.

Rationale:

The Jewellery Manufacturing Industry has identified Jewellery Manufacturing as a critical skill. 80% of commercial jewellery in South Africa is imported. Rapid technological development has necessitated the need for the manufacturing of high quality jewellery in South Africa. Production software and hardware is commercially available which has brought about a critical need in the industry to convert experienced operators into qualified jewellery manufacturers.

Currently there is a shortage of well-rounded goldsmiths that can manufacture for the South African jewellery market. This qualification will produce more skilled goldsmiths raising the quality standard, enabling strong links to be forged with industry thus making industry more competitive in the global market. This qualification will increase the technical proficiency and size of the workforce; which would then enable industry to satisfy the local demands for jewellery without having to rely on imports, thereby decreasing the importation of cheap jewellery which is a threat to the Industry.

The majority of the learners entering this qualification are likely to be Gemstone setters, Jewellery designers and those working in the Jewellery manufacturing industry as operators. In some cases learners may come from other industries, however they would have to become familiar with the basic operations associated with Jewellery manufacturing before they can proceed with this qualification.

Current Jewellery Manufacturing operators in particular will benefit from the opportunities of assessment and subsequent recognition presented by RPL (Recognition of Prior Learning).

A typical learning pathway for learners with this qualification would be the GETC: Mining and Minerals Processes (Jewellery stream), National Certificate: Minerals Processing, NQF Level 2, National Certificate: Jewellery Manufacture, NQF Level 3. Learners can then progress onto the National Certificate: Jewellery Production Management, NQF Level 5.

Qualifying learners will be appointed as Goldsmiths under the guidance of a Senior Goldsmith in a Jewellery Manufacturing environment. Qualifying learners will become more employable to those jewellery companies that manufacture more exclusive jewellery.

Goldsmithing is based on information from the client/and or designer specifications. The goldsmith will guide the client/and or designer in terms of manufacturing techniques, combination of stones, and other precious materials. This qualification will provide learners with the knowledge and skills in jewellery manufacturing processes and techniques necessary for the manufacture of jewellery. The elective unit standards provide the learner with knowledge and skills in setting and design which could provide a basis for further specialisation into those areas.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

Communication and Mathematical Literacy at NQF Level 3.

Recognition of Prior Learning:

This qualification can be achieved wholly or in part through recognition of prior learning in terms of the criteria laid out in the Integrated assessment.

Evidence can be presented in a variety of forms, including international or previous local qualifications, reports, testimonials mentioning functions performed, work records, portfolios, videos of practice and performance records.

Access to the qualification:

Access is open; however it is preferable that learners have completed the National Certificate: Jewellery Manufacturing, NQF Level 3.

QUALIFICATION RULES

Fundamental:

> All 56 credits must be achieved.

Core:

> All 84 credits must be achieved.

Electives:

> 10 credits may be selected from the list of Elective unit standards to make up a minimum of 150 credits for the qualification.

EXIT LEVEL OUTCOMES

1. Communicate and solve problems regarding the manufacturing process of Jewellery.
2. Adhere to the Occupational Health and Safety requirements.
3. Prepare materials for the manufacturing of jewellery.
4. Manufacture and repair jewellery.

Consistency of Exit Level Outcomes with Critical Cross-Field Outcomes:

In accordance with SAQA guidelines, all unit standards include the assessment of relevant Critical Cross-Field Outcomes. Consequently, Exit Level Outcomes are consistent with critical cross-field outcome requirements.

The following CCFO's have been addressed in this qualification as per the unit standards outlined in the Annexures.

SAQA Critical Cross-Field Outcomes:

- > Identifying and solving problems in which responses display that responsible decisions using critical thinking have been made.
 - > Equivalent Exit Level Outcomes: 1, 2, 3, 4.
- > Working effectively with others as a member of a team, group, organization and community.
 - > Equivalent Exit Level Outcomes: 1, 2, 3, 4.
- > Organising and managing oneself and one's activities responsibly and effectively.
 - > Equivalent Exit Level Outcomes: 1, 2, 3.
- > Collecting, analysing, organizing and critically evaluating information.
 - > Equivalent Exit Level Outcomes: 1, 2.
- > Communicating effectively using visual, mathematical and/or language skills.
 - > Equivalent Exit Level Outcomes: 1, 3, 4.
- > Using science and technology effectively and critically, showing responsibility toward the environment and health of others.
 - > Equivalent Exit Level Outcomes: 2, 3, 4.
- > Demonstrating an understanding of the world as a set of related systems by recognizing that problem contexts do not exist in isolation.
 - > Equivalent Exit Level Outcomes: 3, 4.

ASSOCIATED ASSESSMENT CRITERIA

- 1:
- > Oral communication skills is maintained and adapted as required to promote effective interaction in the manufacturing process of jewellery.
 - > Written communication is conducted at an appropriate level for designated target audiences.
 - > Mathematical principles and techniques needed in the jewellery manufacturing process are explained and applied in accordance with specified requirements.
- 2:
- > Occupational health and safety requirements are explained and applied within the jewellery manufacturing environment.
 - > Hazardous conditions are identified and reported in accordance with specified requirements.
- 3:
- > The integrity and characteristics of the metals to be used must comply in accordance with industry practice.
 - > Tools, materials and equipment are selected in accordance with the job specifications.
 - > Materials are weighed and calculated according to job requirements.
- 4:
- > Jewellery manufacturing principles are explained and applied with in accordance with specified requirements.
 - > Read and interpret the design in accordance with client and/or designers specifications.
 - > Range: The design refers to but not limited to:
 - > Drawing.
 - > Photograph.
 - > Model.
 - > Tools and equipment are used to manufacture the jewellery in accordance with specifications.
 - > Jewellery manufacture and repair techniques are applied in the manufacturing process in accordance with specified requirements.
 - > Jewellery is manufactured in accordance with design specifications.
 - > Range: The design refers to but not limited to:

- > Drawing.
- > Photograph.
- > Model.

Integrated assessment:

Integrated assessment at the level of the qualification provides an opportunity for learners to show they are able to integrate concepts, actions and ideas achieved across a range of unit standards and contexts.

Integrated assessment must evaluate the quality of observable performance as well as the thinking behind the performance, and 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:

- > Observing the learner while manufacturing jewellery. This includes:
 - > Gem setting.
 - > Design and interaction with clients, colleagues and management.
- > Asking questions regarding the processes underlying a wide range of activities such as:
 - > Jewellery manufacture.
 - > Gem setting.
 - > Design.
 - > Gemmology.
- > Initiating short discussions to test understanding of:
 - > House keeping.
 - > Productivity.
- > Looking at the objects and artefacts that were manufactured or photos in lieu thereof, records such as employment history and references, progress reports and statement of competency, other evidence in the portfolio and reviewing previous assessments.

In some cases inference will be necessary to determine competence depending on the nature and context within which performance takes place, particularly when looking at the manufactured items of jewellery to see whether the requirements have been met.

The manufacture of the jewellery entails:

- > Applied Numeracy:
 - > Manufacture components to specified dimensions.
 - > Weigh and calculate alloys and other components.
- > Applied Communication:
 - > Liaising with the clients and key people in the production process.
- > Problem Solving:
 - > Combining techniques, materials and processes to produce innovative variations of jewellery.
 - > Produce standard forms of jewellery using unique and innovative processes, techniques and tools.
 - > Troubleshooting.
 - > Improving productivity.

The fundamental part of the qualification may be applied in a range of other contexts and for further learning. The assessment should also ensure that all the Critical Cross-Field Outcomes have been achieved.

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 workplace-based qualification, evidence from other areas of endeavour may be introduced if pertinent to any of the Exit-Level Outcomes.

INTERNATIONAL COMPARABILITY

International qualifications were compared to ensure that the qualification structure and unit standards are comparable in terms of level, scope of qualification and competencies covered. Qualifications and/or programmes from Hong Kong, Australia, Thailand, India and Ireland were selected based on proven best

practice within the field of Jewellery Manufacturing Operations.

The findings regarding comparisons within each country are as follows:

1. Hong Kong:

(http://www.vtc.edu.hk/prospectus/eng/course.php?action_type=detail&course_id=200)

> Technician Foundation Certificate in Jewellery Design and Manufacturing offered by the Vocational Training Council.

Curriculum covers:

Vocational English & Communication Skills, Jewellery Design, Jewellery Illustration, Basic Materials, Practical Computer Application, Professional Goldsmithing, Lost Wax Casting.

The structure of the certificate is similar, however no judgement could be made on the level but it seems to be at a slightly lower level than this FETC Jewellery Manufacturing Operations as only a few elements of competence were found that would compare favourably with the proposed qualification.

> School for art and Technical Education in Jewellery - Hong Kong: Certificate In Jewellery Design - (<http://www.satej.com/Jeweller/courses.htm#Top>):

This is four-month short-term course is introduced for people who want to pursue conventional jewellery designing. At the end of the course, the students are able to:

- > Design jewellery on paper using the most advanced rendering techniques.
- > Understand conventional jewellery manufacturing processes.

Some key roles and competencies were found in the module - understand conventional jewellery manufacturing processes however no judgement could be made on the level and depth of the outcomes.

2. Australia:

(apprenticeship.det.nsw.edu.au/docs/training/MEM98.pdf)

(www.fop.opcet.tas.gov.au/trapeze/reports/VocationalPathway/Funded_Path_History.htm)

The FETC Jewellery Manufacturing Operations matches very closely in terms of qualification purpose, structure, entry level, credits and outcomes with the Certificate III in Jewellery Manufacture apprenticeship; offered by the Department of Education and Training, Australia. Favourable comparisons were found in terms of the outcomes for Occupational Health and Safety, Organising and analysing information, operate in a work based team environment, measure with graduated device, perform computer operations, Operate and monitor machine/process, perform gemstone setting, handle and examine gemstone materials, produce rubber moulds for lost wax casting process and perform hand engraving.

Outcomes or competencies identified in the Certificate III in Jewellery Manufacture are generally quite comparable to the South African qualification in terms of levels and range of competencies covered. Both provide a firm foundation for further study at the higher levels. This apprenticeship is also offered in Tasmania.

3. Thailand:

Gemmological Institute of America (GIA) Thailand:

(<http://www.giathailand.com/>)

(http://www.gia.edu/education/31732/jewelry_manufacturing_arts_program_descriptions.cfm)

Programmes offered include Graduate Jeweller Diploma and Applied Jewellery Arts Diploma Program. The curriculum covers:

- > Learn to illustrate shape, form, and texture of metal.
- > Learn leading-edge 3-D technology to design jewellery using CAD (computer aided design) software.
- > Create a wide variety of designs in wax.
- > Use your own designs to make complete models for casting and mould making.
- > Explore the art of vulcanised rubber and R.T.V. (Room Temperature Vulcanising) mould making and cutting techniques.
- > Learn the art of cutting a mould.
- > Work with metals including how to melt, pour, roll, form, and solder.
- > Learn how to file, pierce, and polish metal.

- > Learn to perform the most common repair requests, including sizing rings, repairing chains, replacing earring posts, and resetting stones.
- > Use laser welding technology to manufacture or repair jewellery - and reduce your production time.
- > Learn the basics of working with gemstones.
- > Learn how to set stones by working with a variety of mounting styles, settings, and fancy shape stones.

Similar competencies were found and the outcomes of the programmes match closely with the outcomes of the unit standards covered in this FETC.

4. India:

(<http://www.ensign.in/learningsolution/?pageurl=Certificate%20Programmes>)

- > Certificate Programme in Custom made Jewellery Manufacturing offered by the Jewellery Design and Technology Institute.

Programme outline:

- > Basic metallurgy and Alloying.
- > Use of hand tools and workshop machinery.
- > Basic goldsmith and jewellery making skills.
- > Technical exercise in jewellery manufacturing.
- > Wax Modelling.
- > Casting technology (complete cycle of casting and extensive practical training).
- > Practical aspects of polishing and finishing.
- > Electroplating.
- > Stone setting.
- > Enamelling and Engraving.
- > Stamping and Coining.
- > Jewellery repair techniques.
- > Maintenance of jewellery equipment and machinery.
- > Environment pollution and safety measures.
- > Final project in manufacturing.

Here again, the content covered in this programme is very similar to the outcomes and competencies within this FETC, however the two are different in terms of structure.

> Art and Design Institute offer courses in:

- > Jewellery Manufacturing Part I:
 - > Properties of metals, alloys, terminologies in manufacturing.
 - > Tools used in Jewellery manufacturing, utility & limitations of important tools.
 - > Cutting and bending, pattern and texture, fusing and soldering, cold joining, finishing, patinas, stone setting, mechanism & chains.
- > Jewellery Manufacturing Part II:
 - > Making earrings, chains, pendants.

Similar competencies were found and the outcomes of the courses offered here match closely with the outcomes of the unit standards and key competencies covered in this FETC.

5. Ireland:

(<http://www.fas.ie/couframe.htm>)

- > Jewellery Manufacturing Operative Traineeship.

Course description:

This course has been designed in order to provide trained personnel for the jewellery industry. The aim of the course is to develop the skills and related knowledge in all aspects of jewellery production.

Modules:

- > Career planning and job seeking skills.
- > Casting.
- > Forming/filing/polishing.

- > Induction.
- > Sawing & piercing.
- > Soldering.

The course compares favourable in terms of purpose, similar competencies match, however no judgement could be made on the entry level. Similar competencies were found that compare favourable to this FETC in terms of casting, soldering, stone setting, forming/filing/polishing as well as sawing and piercing.

Summary:

The FETC Jewellery Manufacturing Operations compares favourable with a wide selection of international qualifications, programmes, courses identified above. Where outcomes or competencies were identified within the international qualifications, programmes or courses, they are generally quite comparable to the South African qualification in terms of competencies covered.

ARTICULATION OPTIONS

This qualification allows for both vertical and horizontal articulation.

Vertical articulation exists with:

- > National Certificate: Jewellery Production Management NQF Level 5 (still in the design phase).

Horizontal articulation exists with:

- > Further Education and Training Certificate: Jewellery Setting Processes, NQF Level 4 (still in the design phase).
- > 57875: Further Education and Training Certificate: Jewellery Designing, NQF Level 4.

MODERATION OPTIONS

> Anyone assessing a learner or moderating the assessment of a learner against the qualification must be registered as an assessor with the relevant Education, Training, Quality, Assurance (ETQA) Body, or with an ETQA that has a 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 Education, Training, Quality, Assurance (ETQA) Body, or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.

> Assessment and moderation of assessment will be overseen by the relevant Education, Training, Quality, Assurance (ETQA) Body, or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.

> Moderation must include both internal and external moderation of assessments, unless ETQA policies specify otherwise. Moderation should also encompass achievement of the competence described in the associated unit standards.

> 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

Assessors should be in possession of:

- > An appropriate qualification at or above the level of the qualification and preferably relevant workplace practical experience.
- > Registration as an assessor with the relevant ETQA.

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	9648 Manufacture jewellery for single faceted stone settings	Level 3	21	Reregistered

Core	243000 Manufacture jewellery	Level 3	7	Draft - Prep for P Comment
Core	15268 Forge metal to manufacture jewellery	Level 4	21	Registered
Core	243003 Manufacture and repair complicated jewellery	Level 4	23	Draft - Prep for P Comment
Core	243005 Describe and understand metallurgical principles for jewellery manufacture	Level 5	12	Draft - Prep for P Comment
Elective	9647 Draw and design jewellery	Level 3	15	Reregistered
Elective	15264 Make and use repousse and chasing punches	Level 3	20	Registered
Elective	15278 Produce a mould of a piece of jewellery or related artefact for reproduction	Level 3	10	Registered
Elective	9638 Set stones in multiple claw or wire settings	Level 4	15	Reregistered
Elective	9642 Set faceted stones in multiple tube settings	Level 4	15	Reregistered
Elective	9643 Set faceted stones in channel settings	Level 4	18	Reregistered
Elective	9644 Tension set a single faceted stone	Level 4	2	Reregistered
Elective	9645 Flush-set faceted stones	Level 4	15	Reregistered
Elective	243001 Pave- and star-set faceted stones	Level 4	15	Draft - Prep for P Comment
Elective	243004 Mass produce jewellery using lost wax casting techniques	Level 4	20	Draft - Prep for P Comment
Elective	243002 Use a 3D computer programme as a design- tool to produce drawings to specifications	Level 5	12	Draft - Prep for P Comment
Elective	243006 Grade a gemstone	Level 5	8	Draft - Prep for P Comment
Elective	243007 Demonstrate an understanding of the historical developments of jewellery	Level 5	12	Draft - Prep for P Comment
Elective	243008 Identify a gemstone	Level 5	10	Draft - Prep for P Comment
Fundamental	119457 Interpret and use information from texts	Level 3	5	Registered
Fundamental	119465 Write/present/sign texts for a range of communicative contexts	Level 3	5	Registered
Fundamental	119467 Use language and communication in occupational learning programmes	Level 3	5	Registered
Fundamental	119472 Accommodate audience and context needs in oral/signed communication	Level 3	5	Registered
Fundamental	7468 Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	Level 4	6	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	12417 Measure, estimate & calculate physical quantities & explore, critique & prove geometrical relationships in 2 and 3 dimensional space in the life and workplace of adult with increasing responsibilities	Level 4	4	Reregistered
Fundamental	119459 Write/present/sign for a wide range of contexts	Level 4	5	Registered
Fundamental	119462 Engage in sustained oral/signed communication and evaluate spoken/signed texts	Level 4	5	Registered
Fundamental	119469 Read/view, analyse and respond to a variety of texts	Level 4	5	Registered
Fundamental	119471 Use language and communication in occupational learning programmes	Level 4	5	Registered.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Manufacture jewellery

SAQA US ID	UNIT STANDARD TITLE		
243000	Manufacture jewellery		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Mining and Minerals	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Fabrication and Extraction	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	7	Level 3	Regular

SPECIFIC OUTCOME 1

Prepare the metal for manufacture.

SPECIFIC OUTCOME 2

Manufacture components for a piece of jewellery and assemble the components using heat.

SPECIFIC OUTCOME 3

Finish the completed piece of jewellery.

SPECIFIC OUTCOME 4

Cast jewellery.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

Pave- and star-set faceted stones

SAQA US ID	UNIT STANDARD TITLE		
243001	Pave- and star-set faceted stones		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Mining and Minerals	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Fabrication and Extraction	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 4	Regular

SPECIFIC OUTCOME 1

Prepare to pave-set faceted stones.

SPECIFIC OUTCOME 2

Prepare to star- set faceted stones.

SPECIFIC OUTCOME 3

Pave- and star- set stones.

SPECIFIC OUTCOME 4

Execute the specified finish.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Use a 3D computer programme as a design- tool to produce drawings to specifications

SAQA US ID	UNIT STANDARD TITLE		
243002	Use a 3D computer programme as a design- tool to produce drawings to specifications		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Mining and Minerals	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Fabrication and Extraction	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the CAD user interface features and the modelling environment.

SPECIFIC OUTCOME 2

Demonstrate an understanding of commands and procedures in order to develop a basic graphic object.

SPECIFIC OUTCOME 3

Demonstrate an understanding of commands and procedures to develop basic 3D models.

SPECIFIC OUTCOME 4

Demonstrate knowledge of file formats, model analysis and rendering.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

4

Manufacture and repair complicated jewellery

SAQA US ID	UNIT STANDARD TITLE		
243003	Manufacture and repair complicated jewellery		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Mining and Minerals	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Fabrication and Extraction	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	23	Level 4	Regular

SPECIFIC OUTCOME 1

Plan the manufacturing process of complicated jewellery.

SPECIFIC OUTCOME 2

Plan the repair of complicated jewellery.

SPECIFIC OUTCOME 3

Prepare the components.

SPECIFIC OUTCOME 4

Assemble prepared components.

SPECIFIC OUTCOME 5

Execute the finish.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

5

Mass produce jewellery using lost wax casting techniques

SAQA US ID	UNIT STANDARD TITLE		
243004	Mass produce jewellery using lost wax casting techniques		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Mining and Minerals	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Fabrication and Extraction	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the relevant theory and its application during each stage of the lost-wax casting process.

SPECIFIC OUTCOME 2

Make rubber moulds from models.

SPECIFIC OUTCOME 3

Produce wax patterns for investment.

SPECIFIC OUTCOME 4

Invest and cast patterns in metal.

SPECIFIC OUTCOME 5

Remove and finish metal reproduction.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

6

Describe and understand metallurgical principles for jewellery manufacture

SAQA US ID	UNIT STANDARD TITLE		
243005	Describe and understand metallurgical principles for jewellery manufacture		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Mining and Minerals	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

SPECIFIC OUTCOME 1

Understand and describe recrystallization after melting and annealing.

SPECIFIC OUTCOME 2

Understand and describe the physical and mechanical properties of cast and cold worked metal.

SPECIFIC OUTCOME 3

Understand and calculate precious metal alloys.

SPECIFIC OUTCOME 4

Understand the theory and practice of rolling, hammering, fluxing, soldering and polishing.

SPECIFIC OUTCOME 5

Understand the causes and prevention of porosity.

SPECIFIC OUTCOME 6

Demonstrate knowledge of annealing, hardening and tempering of carbon steel.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

7

Grade a gemstone

SAQA US ID	UNIT STANDARD TITLE		
243006	Grade a gemstone		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Mining and Minerals	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 5	Regular

SPECIFIC OUTCOME 1

Determine the weight of a loose gemstone.

SPECIFIC OUTCOME 2

Determine the quality of the colour of a gemstone.

SPECIFIC OUTCOME 3

Determine the clarity of a gemstone.

SPECIFIC OUTCOME 4

Determine the quality of the cut of a gemstone.

SPECIFIC OUTCOME 5

Compile a grading report.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

8

Demonstrate an understanding of the historical developments of jewellery

SAQA US ID	UNIT STANDARD TITLE		
243007	Demonstrate an understanding of the historical developments of jewellery		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Mining and Minerals		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Fabrication and Extraction
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 5	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the historic development of the forms of jewellery as found in jewellery shops.

SPECIFIC OUTCOME 2

Demonstrate an understanding of the development of the materials used in the manufacture of jewellery throughout history.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the development of the techniques used in the manufacture of jewellery throughout history.

SPECIFIC OUTCOME 4

Demonstrate an understanding of the functions that jewellery has fulfilled throughout history.

SPECIFIC OUTCOME 5

Demonstrate an understanding of the way that the designs of jewellery items have evolved since prehistoric times.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

9

Identify a gemstone

SAQA US ID	UNIT STANDARD TITLE		
243008	Identify a gemstone		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Mining and Minerals	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Fabrication and Extraction	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 5	Regular

SPECIFIC OUTCOME 1

Describe a gemstone.

SPECIFIC OUTCOME 2

Determine the weight of a gemstone.

SPECIFIC OUTCOME 3

Determine the dimensions of a gemstone.

SPECIFIC OUTCOME 4

Determine the physical properties of a gemstone using gemmological instruments.

SPECIFIC OUTCOME 5

Determine the identity of a gemstone.

No. 1158

24 November 2006

**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

Banking and Micro Finance

registered by Organising Field 03, Business, Commerce and Management Studies, publishes the following unit standards for public comment.

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

Comment on the qualification should reach SAQA at the address *below and no later than 23 December 2006*. All correspondence should be marked **Standards Setting – SGB for Banking and Micro Finance** and addressed to

The Director: Standards Setting and Development
SAQA
Attention: Mr. D. Mphuthing
Postnet Suite 248
Private Bag X06
Waterkloof
0145
or faxed to 012 – 431-5144
e-mail: dmphuthing@saqa.co.za

DR. S. BHIKHA
DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Participate in the board meeting of a co-operative bank

SAQA US ID	UNIT STANDARD TITLE		
243071	Participate in the board meeting of a co-operative bank		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Banking and Micro Finance	3		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Finance, Economics and Accounting	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 3	Regular

SPECIFIC OUTCOME 1

Set the agenda.

SPECIFIC OUTCOME 2

Describe the purpose of a board meeting and the role of board members in a meeting.

SPECIFIC OUTCOME 3

Generate minutes from the meeting.

SPECIFIC OUTCOME 4

Monitor follow-up from meetings.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

Monitor the operations of a co-operative bank

SAQA US ID	UNIT STANDARD TITLE		
243073	Monitor the operations of a co-operative bank		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Banking and Micro Finance	3		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Finance, Economics and Accounting	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	6	Level 3	Regular

SPECIFIC OUTCOME 1

Monitor the co-operative bank's performance with regard to marketing.

SPECIFIC OUTCOME 2

Monitor the performance of the administration of a co-operative bank.

SPECIFIC OUTCOME 3

Monitor the financial performance of a co-operative bank.

SPECIFIC OUTCOME 4

Develop systems to monitor the overall performance of the staff of a co-operative bank.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Implement the roles and responsibilities of board members and committees in a co-operative bank

SAQA US ID	UNIT STANDARD TITLE		
243084	Implement the roles and responsibilities of board members and committees in a co-operative bank		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Banking and Micro Finance	3		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Finance, Economics and Accounting	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	6	Level 3	Regular

SPECIFIC OUTCOME 1

Implement the roles of the board as a whole.

SPECIFIC OUTCOME 2

Understand and apply the roles of individual board members.

SPECIFIC OUTCOME 3

Describe the role of the board in developing policies for managing voluntary and salaried staff members of a co-operative bank.

SPECIFIC OUTCOME 4

Describe the role of committees in the management of a co-operative bank.

No. 1159

24 November 2006

**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 Organising Field 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. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the qualification should reach SAQA at the address *below and no later than 23 December 2006*. 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. D. Mphuthing

Postnet Suite 248

Private Bag X06

Waterkloof

0145

or faxed to 012 – 431-5144

e-mail: dmphuthing@saga.co.za

DR. S. BHIKHA

DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

National Diploma: Public Administration

SAQA QUAL ID	QUALIFICATION TITLE		
57897	National Diploma: Public Administration		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Public Administration and Management	3		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD	
National Diploma	Business, Commerce and Management Studies	Public Administration	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	240	Level 6	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of this qualification is to provide a structured programme for public officials that work with senior and executive 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 Administration (NQF Level 6) is aimed at practitioners working in the public sector or moving into the public sector. It is a qualification in a career pathway towards an accomplished Public Administration and Management Specialist.

The qualification will enhance the ability of the qualifying learner as a public official to perform the expected administration tasks, as well as to 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 furthering studies leading to qualification registered at NQF levels 7.

Qualifying learners could follow a variety of careers within the Public Sector's:

- > Financial Services.
- > Administration.
- > Management.
- > Strategic Leadership.
- > Accounting.
- > Public Entity Management.
- > Knowledge Management.

Rationale:

The public officials in South Africa operate in a wide variety of roles within the Public Administration and Management structures. Often they work in diverse operating and service delivery circumstances.

The sustainability of South Africa's democratic process and developmental governance are strongly linked to capacity building within the three spheres of government, ie. the national, provincial and local spheres of government. It is of great national importance that public officials receive an relevant and respected Public Administration and Management qualification that recognises the knowledge and skills which South Africa's public sector require. To fulfil their roles public sector officials need to have excellent awareness and understanding of the changing needs of today's public service delivery systems. Furthermore, since the South African public sector seeks to strive for global standards in its service delivery, it is imperative to address critical skills areas in line with the strong public sector focus displayed internationally, particularly in:

- > Being familiar with fundamental theories and concepts underpinning effective performance in public sector

management and policy development.

- > Knowing the difficulties of delivering results in government.
- > Being skilled in applying theory and analysing data to solve real world management and policy problems.
- > Having well-developed personal and leadership skills.

The Exit Level Outcomes emphasise many of the Public Administration skills required within public sector in a South African context, whilst taking cognisance of the global benchmarks that exist. 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 administration as key and highly influential in the public service delivery.

The Diploma in Public Administration Level 6 is a specialised Qualification which offers administrative and managerial skills and knowledge that contributes to service delivery in the public sector for learners who:

- > Have attained the National Certificate in Public Administration and Management: Level 5 or any related Public Administration and Management qualifications or generic administration and management qualifications, and wish to continue on a path of life-long learning within the Public Administration or related qualifications.
- > Have worked in Public Administration, Municipal, Public Financial 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 Administration and Management so that they can become knowledgeable workers.
- > Are contracted in a learnership agreement.
- > Have recently taken up a position in Public Administration and Management and need to acquire specific occupational competences peculiar to the public sector.
- > Have not yet acquired the skills and competencies required for learning higher level Public Administration and Management.

The skills, knowledge, values and attitudes reflected in the Qualification are building blocks that will be developed further in a related NQF Level 7 qualification. The intention is:

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

The Diploma in Public Administration: Level 6 aims at the development of knowledgeable, multi-skilled managers who are able to contribute to improved productivity and efficiency within the public sector. It should provide the means for current managers 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.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

It is assumed that all learners accessing this qualification must be in possession of a Further Education and Training Certificate or equivalent qualification. Learners will have competences in Communication NQF Level 5, and Computer Literacy NQF level 5.

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.

Access to the qualification:

Access to this Qualification is open, bearing in mind the Learning Assumed to be in Place itemised above. It is recommended that learners are competent in the Qualification - National Certificate in Public Administration and Management: Level 5 or equivalent before accessing this Qualification. This helps to ensure that the learner has a broad understanding of the basic principles of Public Management and Administration before proceeding with the more specialised requirements of Public Administration at Level 6.

QUALIFICATION RULES

Level, credits and learning components assigned to the qualification:

The qualification is made up of Unit Standards that are classified as Fundamental, Core and Elective. A minimum of 240 credits is required to complete the qualification.

In this qualification the credits are allocated as follows:

- > Fundamental, 54 credits.
- > Core, 138 credits.
- > Electives, 48 credits.

Total, 240 credits.

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

Fundamental Component:

Unit Standards to the value of fifty four (54) credits are allocated to the subject areas of communication, finance, service delivery and information systems.

The communications aspect of the fundamental component focuses on advanced communication skills required to effectively fulfil public administration and management functions within the public sector and this component caters for fifteen (15) credits.

Sixteen credits (16) have been allocated to information systems skills and knowledge required in the public sector.

It is also viewed that service delivery is an integral part of the effective public administration and management function. For this reason, eight (8) credits have been allocated to this learning area.

A further fifteen (15) credits has been allocated to financial management with specific emphasis at the fundamental level of this qualification focusing on budget preparation.

All the Unit Standards are compulsory.

Core Component:

One-hundred and thirty eight (138) credits have been allocated to Unit Standards in the Core Component of this Qualification. The Unit Standards classified as Core describe Public Administration and Management knowledge and skills that are generic to various public sector contexts where Administrative and Management functions of one kind or another are executed. They provide an opportunity to develop knowledge of Public Sector Administration and Management through research, formal learning and workplace practice and/or simulated situations. The Core Unit Standards provide the basic knowledge and skills that all workers need to know about Public Administration and Management.

All Unit standards are compulsory.

Elective Component:

There are Unit Standards totalling one hundred and forty seven (147) credits in this Component. Learners are required to select Electives that add up to a minimum of forty eight (48) credits.

EXIT LEVEL OUTCOMES

On achieving this qualification, the learner will:

1. Develop and manage knowledge management and knowledge management systems for the public sector.
2. Manage the implementation of strategies, policies and plans in a public sector environment.
3. Develop service delivery charters, protocols and agreements to support service delivery objectives and implementation within public sector environment.
4. Promote and uphold strategic leadership within public sector environment.
5. Create a culture of a learning organisation within the public sector.

ASSOCIATED ASSESSMENT CRITERIA

1.

- > A vision and culture that empowers staff to seek and share knowledge is created within overall public sector context.
- > Partnerships are established across organisational boundaries to facilitate knowledge sharing.
- > Different organisational knowledge structures are correlated in order to determine knowledge management capacities and requirements.
- > Knowledge management communication lines are facilitated within and across organisations.
- > Knowledge management structures and mechanisms are designed in line with organisational policies and procedures.
- > Trouble shooting mechanisms are established and implemented to maintain and improve the knowledge management system.
- > Knowledge capability is monitored and managed within a public sector organisation.

2.

- > Advice, guidance and analysis is provided regarding the impact of legislation on overall delivery objectives, priorities and processes.
- > Implementation objectives, priorities and processes are communicated to relevant stakeholders.
- > The allocation and use of resources is managed according to overall public sector policies, procedures and legislation.
- > Implementation processes are coordinated, monitored and reviewed in line with overall public sector policies and procedures.
- > Realignment of implementation objectives, priorities and processes is negotiated with relevant stakeholders.
- > Change management processes associated with implementation strategies are implemented and managed on an ongoing basis.

3.

- > Service delivery objectives are evaluated and updated on an ongoing basis.
- > Service delivery charter is developed in line with overall public sector service delivery policies and objectives.
- > The principles of the service delivery charter are advocated to internal and external stakeholders.
- > The impact of the service delivery charter is evaluated in order to enhance client satisfaction.
- > The nature and extent of services to be provided is negotiated, and protocols governing service provision is agreed to within public sector policy framework and protocols.
- > Terms of agreement are established in line with public sector policies.
- > Services to be purchased and/or provided are identified and cognisance taken of these services in service charters.
- > Provisions for service are approved, monitored, evaluated and reported in line with public service policies.

4.

- > Participation is undertaken in the formulation and communication of organisational vision, purpose, principles and values.
- > Concepts and issues are examined and clarified in relation to overall government strategy, objectives and priorities.
- > Priorities are identified and actions initiated to achieve objectives.
- > Actions are initiated in order to position the public sector organisation to respond to changes in the environment.

5.

- > The importance of knowledge is promoted within the public sector through effective communication and

liaison.

- > A knowledge-enabling environment is created in line with overall knowledge management policies and procedures.
- > Others are motivated to share and transfer knowledge.
- > The organisation's behaviour is proactively modified to keep up with the latest knowledge management developments.

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 Service 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

This qualification was compared to equivalent level public administration qualifications in:

- > SADC countries (Namibia, Botswana, Lesotho and Swaziland).
- > United Kingdom.
- > Pacific rim countries (Australia and New Zealand).
- > United States of America.
- > Unit standards for Public Administration.

Comparison results:

- > The importance of management and administrative training within the public sector context is well articulated worldwide and internet resources, materials and assistance on this topic were both freely available and easy to find.
- > Research revealed that this qualification compares favourably to 1st degree and certificate level programs in public administration in all the countries canvassed in respect of core and elective components, syllabi and course outcomes including those countries with unit standard qualifications.

Botswana, Lesotho and Swaziland:

The Institute for Development Management (IDM) (<http://www.idmbis.com>) is a regional organisation in Botswana, Lesotho and Swaziland (BLS) countries to help meet the management needs of the Region through management development activities including training, consultancy, research, and the establishment of a Management Resource Centre. IDM offers a Certificate in Public Administration and Management.

This 36 week certificate course aims to meet the need for continuous training and development in Public Sector. Stated course outcomes include:

- > Use the computer in information management.
- > Demonstrate knowledge of numeric skills.
- > Demonstrate knowledge of Occupational Health and Safety.
- > Demonstrate knowledge of HIV/AIDS.
- > Communicate effectively in the workplace.
- > Demonstrate knowledge of the role and scope of Public Administration.
- > Demonstrate knowledge of decentralization and the role of local authorities in national development.
- > Apply basic principles of management in the workplace.
- > Demonstrate understanding of the various statutes which affect their day to day work.
- > Manage records and information in their organisations.
- > Demonstrate an understanding of basic principles of management.
- > Demonstrate an understanding of basic principles of economics.
- > Apply research methods by undertaking a work related project.

The course comprises the following modules:

- > Introduction to Public Admin.
- > Local Govt Administration and Management.
- > Principles of Management.
- > Legal Aspects of PA.
- > Introduction to PC.
- > Communication skills.
- > Introduction to Financial Management.
- > Introductory Economics.
- > Occupational Health and Safety.
- > Records Management.
- > Numeric skills.
- > HIV/AIDS Awareness.
- > Basic Research Methods.

A search for unit standards based qualifications was however more difficult.

The Botswana Training authority (<http://www.bota.org.bw/>) is not yet a searchable site. Available units standard reveal that none exist at all for the public sector or administration.

This qualification compared well with the IDM Certificate in Public Administration and Management with regard to themes, content and course outcomes at the appropriate level.

United Kingdom:

This qualification was compared with equivalent level Public Administration qualifications of the:

- > London Metropolitan University.
- > Westminster Kingsway College.
- > Open University.
- > University of Bradford.

London Metropolitan University:

The undergraduate prospectus for 2006/7 provides an qualification in Public Administration - (further details can be viewed here <http://www.londonmet.ac.uk/ug-prospectus-2006/courses/public-administration.cfm>).

This focused course covers the core aspects of public administration with options which allow the learner to focus on policy analysis, local government, national and international public administration reform. A final year project allows the learner to concentrate on an area of personal interest.

Core Modules include:

- > Contemporary UK Government.
- > Economy and Society.
- > Governance and Public Policy.
- > Policy Analysis.
- > Public Management.
- > Theory and Practice of Organisations.

Optional (elective) modules include:

- > Comparative Politics.
- > The Idea of Justice.
- > Introduction to Politics.
- > Local Government, Local Politics.
- > Equal Opportunities Policy.
- > Managing the Community and Voluntary Sector.
- > Politics and Political Change in Britain, 1945-1979.
- > Parliament, Politics and Policy Making.
- > Environmental Policy.
- > Politics and Society in the Third World.
- > Public Administration Project.
- > Public Administration Work Placement.
- > International Administration and Development.
- > Management in Health and Social Services.
- > Modern British Politics.
- > EU Policies and Issues.

This is a three year course.

Comparison:

The degree presented by London Metropolitan University is far more generic and less focused on actual Management and Administration issues in civil service context. In this regard the present qualification compares favourable both with regard to the public sector focus of the core material as well as the range of elective material that creates flexibility.

Westminster Kingsway College:

Westminster Kingsway College is a large college in Central London. The college offers a wide range of further, adult and higher education programmes, which are available for people of all ages from sixteen years upwards. It also provides a qualification entitled - Foundation Degree: Public Administration (details can be viewed at <http://www.westking.ac.uk/courses/courseDetail.asp?courseID=4187>).

Modules include:

- > Managing performance.
- > Introduction to managing people.
- > Ethical and legal aspects.
- > Economics of the public sector.
- > Information management for decision-making.
- > Marketing and PR in a public sector context.
- > Managing finance.
- > Quality management.
- > Public sector planning and strategy.

The programme includes work-based learning units consistent with the requirements of Foundation degrees. The programme enables progression to a range of Honours degrees and eventually to Master's programmes.

Comparison:

The South African qualification appears to be far more comprehensive and seem to lack only economics in the public sector and financial management.

The Open University provides and a leading edge Master of Public Administration (MPA) qualification for managers throughout federal, national, regional and local government, the uniformed services, public and voluntary agencies, and social enterprises. It reflects international influences and it has a strong trans-national dimension.

The core and elective components are selected from among the following themes:

- > Health and Social Care.
- > Criminal Justice.
- > Regional and Local Government planning and services.

- > Fundamentals of senior management.
- > Managing performance and change.
- > Shaping public policy: processes and contexts.
- > Current issues in public management and social enterprise.
- > Financial strategy.
- > Creativity, innovation and change.
- > Managing knowledge.
- > Managing Human Resources.
- > Marketing in a complex world.
- > Strategic management in life sciences and healthcare.
- > Environmental valuation and policy.
- > Rethinking social policy.
- > Community safety, crime prevention and social control.
- > Youth justice, penalty and social control.
- > Leading and managing for effective education.
- > Science and the public.
- > Environmental ethics.
- > Environmental decision making: a systems approach.
- > Capacities for managing development.
- > War, intervention and development.

The Open University also provide certificate and diplomas that are subsets of the courseware of the Masters' level qualifications. This qualification compares favourably with the Open Universities MPA in respect of main themes, outcomes quality and content.

The University of Bradford provides foundation and masters degrees in public administration.

The masters' programme's core comprises:

- > Delivering Public Value.
- > Designing Public Policies and Programs.
- > Government in a Market Economy.
- > Decision Making Under Uncertainty.
- > Governing by the Rules.
- > Leading Public Sector Change.
- > Work-Based Project.

The foundation programmes' core comprises modules selected from:

- > Effectiveness in the Workplace.
- > Mentoring Skills and Application.
- > Personal and Professional Development 1.
- > Diversity in context.
- > Impact of Social Policy on Public/Private Community and Voluntary Sector Practice.
- > Information Technology Management.
- > Learning from Experience in the Workplace.
- > People and Organisations.
- > Personal and professional Development 2.
- > Theory and Practice of Multi-Agency Partnerships.
- > Australian Politics: A Comparative Study.
- > Government, Business and Society.
- > Accounting for Managers.
- > Introduction to Management.
- > Australian Government and Public Policy.
- > Human Resource Management.
- > Marketing Management.
- > Advanced Perspectives on Public Policy.
- > International Human Resource Management.
- > Managerial Economics.
- > Leadership in Business and Society.

This qualification compares favourably with the Flinders University bachelors degree program in respect of main themes, outcomes quality and content.

The New Zealand Qualifications Authority (<http://www.kiwiquals.govt.nz/>) has a Diploma in Local Government and administration at NQF level 8 worth 120 credits which is comparable to our National

Diploma Public Administration Level 6.

However, the Australian Qualifications Framework (<http://www.aqf.edu.au/>), the National Qualifications authority of Ireland (<http://www.nqai.ie/cgi-bin/search>) all failed to reveal any specific qualification of a similar nature to this qualification. On the other hand qualifications at the diplomas and degrees levels Public Administration and Management were available on the various university websites.

The University of Sydney:

This university provides a Graduate Diploma in Public Administration. Particulars can be viewed at http://www.usyd.edu.au/grad_school_govt/diploma.shtml.

Knowledge areas covered include:

- > Public policy - formulation and analysis.
- > Policy implementation and public value.
- > Leadership.
- > Strategic thinking.
- > The art of implementation.
- > Planning.
- > Resource management.
- > Communication.
- > Decision-making and problem-solving.
- > Ethics.
- > Risk Management.
- > Managing, Leading and Responding to Change.
- > International trends in public sector management.
- > Government-business relations.
- > Marketing.
- > Survey Design and Analysis.
- > Media Management.
- > Public Expenditure Management.
- > Capital Works and Asset Procurement Management.
- > Case study exercises.
- > Work-based projects.

The United States of America:

This qualification was compared with equivalent level (undergraduate) qualifications at the following universities in the United States:

- > The University of Alaska.
- > Baltimore University.
- > Arizona University.
- > Walden University.

Levels of education and content fluctuate widely in the US due to competitive diversity. This qualification however compared favourable with the Bachelor and Master level courses of equivalent content, syllabi in respect of outcomes and quality.

A typical example is Arizona University.

Students learn how public agencies handle budgetary, financial, personnel and policy-making matters. Possible specialisation include:

- > Criminal Justice Administration.
- > Health & Human Services.
- > Public Management.

Typical themes of the undergraduate degree at Arizona University include:

- > Business and Modern Society.
- > Health Ethics and Public Policy.
- > History of US Intelligence: Organization and Policy.
- > Ethical issues in Business.
- > Public policy and administration.

- > Health, Human Services and Public Management.
- > Criminal Justice Administration.
- > Ethics and the Public Administrator.
- > Court Administration and Management.
- > Women and Youth in the Justice System.
- > Crime and Public Policy.
- > Formation of Public Policy.
- > Environmental Policy.
- > International Trade, Public Policy and relations.

This qualification compares favourably with similar undergraduate courses of the US universities with the programme of University of Arizona as example.

Conclusions:

The qualifications in Public Administration worldwide tend to be at the postgraduate level rather than at undergraduate level (i.e. at approximately our NQF level 7 and not NQF 6). Nevertheless it is possible to conclude that this is an internationally comparable high level programme in Public Administration. However undergraduate degree and diploma courses were easily found in commonwealth countries for comparative purposes. In this regard the United Kingdom and Australia were used as benchmarks.

This certificate qualification compares well against similar certificate qualifications found in the SADC region and undergraduate qualification in key commonwealth countries.

ARTICULATION OPTIONS

This Qualification articulates with MBA and other similar qualifications at NQF Level 6 and 7.

MODERATION OPTIONS

- > Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with the relevant Education, Training, Quality, Assurance (ETQA) Body, or with an ETQA that has a 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 Education, Training, Quality, Assurance (ETQA) Body.
- > Assessment and moderation of assessment will be overseen by the relevant Education, Training, Quality, Assurance (ETQA) Body, or by an ETQA that has a Memorandum of Understanding with the ETQA, according to the ETQA's policies and guidelines for assessment and moderation.
- > 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 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

For an applicant to register as an assessor, the applicant needs:

- > A minimum of 2 (two) years' practical, relevant occupational experience in Administration.
- > To be declared competent in all the outcomes of the National Assessor Unit Standards as stipulated by South African Qualifications Authority (SAQA).

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	119342 Apply knowledge of ethical principles, standards and professional conduct in public sector management and administration	Level 5	8	Registered
Core	120307 Apply South African legislation and policy affecting public administration	Level 5	10	Registered
Core	12138 Conduct an organisational needs analysis	Level 6	10	Reregistered
Core	12158 Formulate and coordinate government communications programmes	Level 6	5	Reregistered

Core	114493	Manage interactive communication between public and government	Level 6	7	Registered
Core	243109	Manage knowledge management systems within the public sector	Level 6	10	Draft - Prep for P Comment
Core	243110	Design, implement and evaluate change management strategy for a Public Sector environment	Level 6	10	Draft - Prep for P Comment
Core	243112	Manage the tender procurement process	Level 6	10	Draft - Prep for P Comment
Core	243113	Create a culture of a learning organisation within the public sector	Level 6	8	Draft - Prep for P Comment
Core	243114	Manage the implementation of organisational strategies, policies and plans in a Public Sector environment	Level 6	8	Draft - Prep for P Comment
Core	243115	Develop a service delivery charter for a public sector organisation	Level 6	10	Draft - Prep for P Comment
Core	243116	Promote and uphold strategic leadership in line with Public Sector vision, values, objectives and priorities	Level 6	10	Draft - Prep for P Comment
Core	243117	Set budget parameters for public sector department/organisation	Level 6	10	Draft - Prep for P Comment
Core	243119	Develop and produce public sector service delivery protocols and agreements	Level 6	10	Draft - Prep for P Comment
Core	243121	Develop mechanisms and structures for managing knowledge	Level 6	12	Draft - Prep for P Comment
Elective	10146	Supervise a project team of a developmental project to deliver project objectives	Level 5	14	Reregistered
Elective	15216	Create opportunities for innovation and lead projects to meet innovative ideas	Level 5	4	Reregistered
Elective	7859	Lead and manage teams of people	Level 6	6	Reregistered
Elective	10080	Formulate, design and implement customer service delivery systems and processes	Level 6	8	Reregistered
Elective	10617	Demonstrate an understanding of human resources and industrial relation principles and legislation	Level 6	6	Registered
Elective	12157	Develop and produce information products for government	Level 6	4	Reregistered
Elective	12978	Identify, implement and manage Information System financial control strategy	Level 6	12	Reregistered
Elective	12979	Analyse and participate in the design of Information Systems	Level 6	12	Reregistered
Elective	110483	Develop and manage an organisational records system	Level 6	5	Registered
Elective	114926	Develop plans for implementing Learnerships and Skills Programmes within a learning organisation	Level 6	5	Registered
Elective	115437	Lead and manage people	Level 6	20	Registered
Elective	243111	Manage human resources processes for a public sector organisation	Level 6	12	Draft - Prep for P Comment
Elective	243118	Act as a role model in setting a culture of customer service	Level 7	8	Draft - Prep for P Comment
Fundamental	13099	Contribute to the implementation, post-implementation review and maintenance of information systems	Level 6	16	Reregistered
Fundamental	116804	Collect and collate background information for specific contexts	Level 6	15	Registered
Fundamental	120302	Prepare budgets for a specific sector	Level 6	15	Registered
Fundamental	120306	Manage service delivery improvement	Level 6	8	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Manage knowledge management systems within the public sector

SAQA US ID	UNIT STANDARD TITLE		
243109	Manage knowledge management systems within the public sector		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Public Administration and Management	3		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 6	Regular

SPECIFIC OUTCOME 1

Create and support a vision and culture that empowers staff to seek and share knowledge.

SPECIFIC OUTCOME 2

Establish partnerships across organisational boundaries to facilitate knowledge sharing.

SPECIFIC OUTCOME 3

Correlate different organisational knowledge strategies.

SPECIFIC OUTCOME 4

Facilitate knowledge management communication lines within and across organisations.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

Design, implement and evaluate change management strategy for a Public Sector environment

SAQA US ID	UNIT STANDARD TITLE		
243110	Design, implement and evaluate change management strategy for a Public Sector environment		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Public Administration and Management		3	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Public Administration
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 6	Regular

SPECIFIC OUTCOME 1

Design change management strategy to enhance organisational performance.

SPECIFIC OUTCOME 2

Design communication strategy to meet change management goals.

SPECIFIC OUTCOME 3

Sponsor change agents and create a network of leaders who support and own change initiatives.

SPECIFIC OUTCOME 4

Design activities, processes and procedures to implement change management strategy.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Manage human resources processes for a public sector organisation

SAQA US ID	UNIT STANDARD TITLE		
243111	Manage human resources processes for a public sector organisation		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Public Administration and Management	3		
UNIT STANDARD TYPE	ORGANISING 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

Implement and maintain performance management processes.

SPECIFIC OUTCOME 2

Identify the developmental needs of employees and provide opportunities for development.

SPECIFIC OUTCOME 3

Recognise and reward desired behaviours and results.

SPECIFIC OUTCOME 4

Design integrated strategies for reaching Skills Development, Employment Equity and Affirmative Action goals.

SPECIFIC OUTCOME 5

Adapt organisational systems and processes to recruit and retain high calibre staff.

SPECIFIC OUTCOME 6

Achieve or exceed set goals for Skills Development, Employment Equity and Affirmative Action.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

4

Manage the tender procurement process

SAQA US ID	UNIT STANDARD TITLE		
243112	Manage the tender procurement process		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Public Administration and Management	3		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 6	Regular

SPECIFIC OUTCOME 1

Prepare to initiate the tender procurement process.

SPECIFIC OUTCOME 2

Manage the pre-tender procurement procedures.

SPECIFIC OUTCOME 3

Manage the tender procurement procedures.

SPECIFIC OUTCOME 4

Maintain pro-active communication with all role-players of the tender procurement process.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

5

Create a culture of a learning organisation within the public sector

SAQA US ID	UNIT STANDARD TITLE		
243113	Create a culture of a learning organisation within the public sector		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Public Administration and Management	3		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 6	Regular

SPECIFIC OUTCOME 1

Promote the importance of knowledge within the public service through effective communication and liaison.

SPECIFIC OUTCOME 2

Create a knowledge-enabling environment.

SPECIFIC OUTCOME 3

Motivate others to share and transfer knowledge.

SPECIFIC OUTCOME 4

Modify the organisations behaviour pro-actively to keep up with the latest knowledge management developments.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

6

Manage the implementation of organisational strategies, polices and plans in a Public Sector environment

SAQA US ID	UNIT STANDARD TITLE		
243114	Manage the implementation of organisational strategies, polices and plans in a Public Sector environment		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Public Administration and Management	3		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 6	Regular

SPECIFIC OUTCOME 1

Provide advice, guidance and analysis on the impact of legislation on overall delivery objectives, priorities and processes.

SPECIFIC OUTCOME 2

Communicate implementation objective, priorities and processes.

SPECIFIC OUTCOME 3

Manage the allocation and use of resources.

SPECIFIC OUTCOME 4

Coordinate, monitor and review implementation processes.

SPECIFIC OUTCOME 5

Negotiate realignment of implementation objectives, priorities and processes.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

7

Develop a service delivery charter for a public sector organisation

SAQA US ID	UNIT STANDARD TITLE		
243115	Develop a service delivery charter for a public sector organisation		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Public Administration and Management	3		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 6	Regular

SPECIFIC OUTCOME 1

Evaluate and update service delivery objectives.

SPECIFIC OUTCOME 2

Develop a service deliver charter.

SPECIFIC OUTCOME 3

Advocate the principles of the service delivery charter to internal and external stakeholders.

SPECIFIC OUTCOME 4

Evaluate the impact of the service delivery charter on enhanced customer/client satisfaction.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

8

Promote and uphold strategic leadership in line with Public Sector vision, values, objectives and priorities

SAQA US ID	UNIT STANDARD TITLE		
243116	Promote and uphold strategic leadership in line with Public Sector vision, values, objectives and priorities		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Public Administration and Management		3	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Public Administration
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 6	Regular

SPECIFIC OUTCOME 1

Participate in formulation and communication of organisational vision, purpose, principles and values.

SPECIFIC OUTCOME 2

Examine and clarify concepts and issues in relation to overall Government strategy, objectives, and priorities.

SPECIFIC OUTCOME 3

Identify priorities and initiate actions to achieve objectives.

SPECIFIC OUTCOME 4

Initiate actions to position the organisation to respond to changes in the environment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

9

Set budget parameters for public sector department/organisation

SAQA US ID	UNIT STANDARD TITLE		
243117	Set budget parameters for public sector department/organisation		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Public Administration and Management		3	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Business, Commerce and Management Studies	Public Administration
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 6	Regular

SPECIFIC OUTCOME 1

Demonstrate knowledge of setting budget parameters for department/organisation.

SPECIFIC OUTCOME 2

Set the budget parameters for a department/organisation.

SPECIFIC OUTCOME 3

Communicate the departmental/organisational budget parameters and the method of allocation to all relevant external and internal stakeholders.

SPECIFIC OUTCOME 4

Manage the set budget parameters.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

10

Act as a role model in setting a culture of customer service

SAQA US ID	UNIT STANDARD TITLE		
243118	Act as a role model in setting a culture of customer service		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Public Administration and Management	3		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 7	Regular

SPECIFIC OUTCOME 1

Set a personal example of implementing standards for customer service.

SPECIFIC OUTCOME 2

Proactively set up and propagate standards for major stakeholders, clients and customer relationships.

SPECIFIC OUTCOME 3

Review and recommend improvements to policy and systems for customer service.

SPECIFIC OUTCOME 4

Conceptualise inputs, techniques and outputs for quality management system to ensure that it supports ongoing continuous improvement in service delivery within public sector.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

11

Develop and produce public sector service delivery protocols and agreements

SAQA US ID	UNIT STANDARD TITLE		
243119	Develop and produce public sector service delivery protocols and agreements		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Public Administration and Management	3		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Public Administration	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 6	Regular

SPECIFIC OUTCOME 1

Negotiate the nature and extent of services to be provided, and protocols governing service provision.

SPECIFIC OUTCOME 2

Establish terms of the agreement.

SPECIFIC OUTCOME 3

Specify services to be purchased and/or provided.

SPECIFIC OUTCOME 4

Approve monitoring, evaluation, and reporting provisions.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

12

Develop mechanisms and structures for managing knowledge

SAQA US ID	UNIT STANDARD TITLE		
243121	Develop mechanisms and structures for managing knowledge		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Public Administration and Management	3		
UNIT STANDARD TYPE	ORGANISING 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

Develop a proposal to communicate the value of and necessity for a knowledge management system to different audiences.

SPECIFIC OUTCOME 2

Amend proposal to minimise identified risks and threats identified by different audiences.

SPECIFIC OUTCOME 3

Establish knowledge management structures and mechanisms in line with organisational policies and procedures.

SPECIFIC OUTCOME 4

Coach others on knowledge management techniques and promote best practice.

SPECIFIC OUTCOME 5

Establish and implement trouble-shooting mechanisms to maintain and improve the knowledge management system.

SPECIFIC OUTCOME 6

Monitor and measure knowledge capability within a public sector organisation.

No. 1160

24 November 2006

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

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

Welding

registered by Organising Field 06, Manufacturing, Engineering and Technology, publishes the following qualifications and unit standards for public comment.

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

Comment on the qualification and unit standards should reach SAQA at the address *below and no later than 23 December 2006*. All correspondence should be marked **Standards Setting – SGB for Welding** and addressed to

The Director: Standards Setting and Development
SAQA

Attention: Mr. D. Mphuthing

Postnet Suite 248

Private Bag X06

Waterkloof

0145

or faxed to 012 – 431-5144

e-mail: dmpthuthing@saga.org.za

DR. S BHIKHA

DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

National Certificate: Welding Application and Practice

SAQA QUAL ID	QUALIFICATION TITLE		
57881	National Certificate: Welding Application and Practice		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD	
National Certificate	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	158	Level 2	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of this Qualification is to provide learners with the standards and the range of learning required to work effectively in the welding industry and to meet the challenges of such an environment.

This Qualification recognises the basic skills, knowledge and values acquired by learners involved in welding. The purpose of this Qualification is to develop learners who, after completion, demonstrate the ability to:

- > Use and apply mechanical and welding technology, techniques, processes and skills, as applied in the fabrication and welding industry, using appropriate tools and measuring equipment.
- > Use and apply a variety of fillet welding, oxy-fuel cutting and oxy-fuel joining processes.
- > Demonstrate knowledge of the welding industry and its productivity requirements, by applying appropriate work-procedures.
- > Communicate effectively in order to achieve personal, business and organizational objectives. (Range: Reading and interpreting work instructions, documents and drawings; maintaining effective relationships; exploring options for further learning).

This Qualification requires that learners qualify in basic welding practice and theoretical knowledge in weld preparation, cutting and brazing.

Qualifying learners will also understand:

- > Welding Safety and applicable work-site practice.
- > Effective communication techniques within the workplace.
- > Numeracy skills applicable to the welding environment.
- > Dealing with HIV-aids.

With this understanding, learners will be able to participate in workplace activities.

What learners achieve in this Qualification will also serve as a basis for further learning where they will further develop their skills and knowledge to include more complex welding processes, equipment and techniques.

Rationale:

This is the first Qualification in a learning pathway for learners who want to follow a career in welding. The qualification replaces the National Certificate: Welding Application and Practice NQF Level 2 and the interimly registered qualification - National Certificate: Chemical Welder NQF Level 2.

This Qualification focuses on developing skills and knowledge necessary to begin such a career.

The welding industry operates in a competitive and challenging environment. The finished processes have to respond to a wide variety of exacting customer and consumer requirements. In addition, the industry has to respond to international competition and environmental issues.

Welding application and practice require joining and cutting of materials that meet national and international requirements. Welding generally requires the joining of material that is subjected to considerable stress when in operation and the welding process needs to be consistent and accurate.

This Qualification forms part of a series at different levels to create opportunities for development, a career path and greater security of employment within the welding industry.

This Qualification enables learners who have gained relevant experience in the workplace to obtain credits through the RPL process.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

It is assumed that learners are already competent in:

> Communication and Mathematical Literacy at NQF Level 1.

Recognition of prior learning:

This qualification can be obtained in part or wholly through the recognition of prior learning. 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

> All the fundamental unit standards totalling 36 credits are compulsory.

> All the core unit standards totalling 106 credits are compulsory.

> A minimum of 16 credits should be chosen from the electives. A minimum of 166 credits is required to obtain the qualification.

EXIT LEVEL OUTCOMES

1. Use and apply mechanical and welding technology, techniques, processes and skills, as applied in the fabrication and welding industry, using appropriate tools and measuring equipment.
2. Use and apply a variety of fillet welding, oxy-fuel cutting and oxy-fuel joining processes.
3. Demonstrate knowledge of the welding industry and its productivity requirements, by applying appropriate work-procedures.
4. Communicate effectively in order to achieve personal, business and organizational objectives.
 - > Range: Reading and interpreting work instructions, documents and drawings; maintaining effective relationships; exploring options for further learning.

ASSOCIATED ASSESSMENT CRITERIA

1

- > Mechanical and welding technology concepts, techniques and processes are explained and applied within a fabrication and welding context.
- > Tools, measuring equipment and engineering materials are used and applied in accordance with performance standards.
- > Occupational health, safety and environmental legislation, including safety practices and procedures, are applied to the fabrication and welding industry in accordance with standard operating procedures.
- > Welding machinery, tools and equipment, are cleaned and stored according to standard operating procedures.

2

- > Fillet welding technique is applied in the downhand position and tested in accordance with performance standards.

- > Welding processes are applied in accordance with performance standards.
 - > Range: Welding processes include Shielded metal arc welding; gas metal arc welding; gas tungsten arc welding; cored-wire welding; gas-welding.
- > Oxy-fuel joining and cutting processes are applied in accordance with performance standards.
 - > Range: Oxy-fuel joining and cutting processes include gas-brazing and gas-cutting of plate and structures.
- > Specific safety practices and procedures are applied relevant to the fabrication and welding industry.
- > Welding machinery, tools and equipment, are cleaned and stored according to standard operating procedures.
- > Work-pieces are assessed in accordance with performance qualification standards.

3

- > Communication processes and terminology are explained and demonstrated within the context of the welding industry.
- > Productivity requirements are explained within the context of the welding industry.
- > Problems are identified in a timely manner, reported and discussed and the agreed corrective action is implemented.
- > Information is interpreted to implement work instructions.
- > Specific safety practices and procedures are applied relevant to the fabrication and welding industry.

4

- > Communication skills are demonstrated in various work-related situations.
- > Relationships with peers are maintained to promote effective communication within the workplace.
- > Concise reports are produced for record keeping purposes.
- > Learning opportunities are identified and discussed in order to produce a learning plan.

Integrated assessment:

Integrated assessment at the level of this Qualification provides an opportunity for learners to show they are able to integrate concept, actions and values achieved across a range of Unit Standards and contexts. Integrated assessment must evaluate the quality of observable performance as well as the thinking behind the performance.

Some assessment aspects will demand practical demonstration while others may not. In some cases inference will be necessary to determine competence depending on the nature and context within which performance takes place.

Assessors will collect evidence of the learner's competence by:

- > Observing the learner at work (both in primary activities as well as other interactions) or by relevant simulations.
- > Asking questions and initiating short discussions to test understanding.
- > Looking at records and reports.

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 on the approach being taken.

Since this is a foundational Qualification, it is necessary to ensure that the fundamental part of the Qualification is also targeted to ensure that while the competence may have been achieved in a particular context, learners are able to apply it in a range of other contexts and for further learning. The assessment should also ensure that the critical cross-field outcomes have been achieved.

INTERNATIONAL COMPARABILITY

International comparability in welding programmes has two divergent categories:

- > Comparative education and training content, at a specific levels within the context of the NQF.
- > Comparative quality assurance standards for international qualification, certification and licensing.

Comparative education and training content:

It must be stated from the outset of this statement that reference to international benchmarking for this qualification series, applies only to the education and training content at specific levels between NQF 2, 3

and 4 and its measure of "appropriateness" when compared with welder training programmes internationally.

International Benchmarking was done against the contents of the International Welder Qualification as specified and prepared by the International Authorisation Board (IAB Group A, WG A3A; IAB-089-2003/EWF-452-467-480-481 Rev.3 - January 2005; expires 31st December 2007). This benchmarking was done in order to align the education and training content of this Qualification Series: National Certificate in Welding Application and Practice NQF 2 and 3 and Further Education and Training Certificate NQF 4, according to international standards.

The comparison with the training approach advocated by the International Welding Institute (IIW) through its "Bratislava Agreement" is particularly valuable, since they also lead to a European Community (EC) standard for Welding, making the International Welder Diploma equivalent to the European Welder Diploma. Participants in the "Bratislava Agreement" include the South African Institute of Welding (SAIW).

This exercise also included an investigation into the American (USA) Welding Society's (AWS) approach to introductory, intermediate and advanced education and training programmes related to welding.

African countries with manufacturing and engineering infrastructure (including SADC countries) were scanned for applicable qualifications or training programmes, but no relevant qualifications are offered in any of these countries.

Good international comparability, including similar core qualification structures and progressions from NQF Level 2 to NQF Level 3, were found in the Australian, New Zealand, British and Scottish qualifications.

A direct comparison with these international qualifications indicates that the education and training focus of all the qualifications is basically the same. The reference to level descriptors differ, in order to accommodate the NQF and outcomes-based education approach. This qualification series therefore makes an attempt at equating the education and training content of the three international skills levels by creating three distinct South African (NQF) welding qualifications, viz:

- > International fillet welder - National Certificate in Welding Application and Practice NQF 2.
- > International plate welder - National Certificate in Welding Application and Practice NQF 3.
- > International pipe welder - Further Education and Training Certificate in Welding Application and Practice NQF 4.

Comparative quality assurance standards:

This qualification series differs from the international qualification benchmark, in that it does not require the welded work of learners to be quality assured according to the criteria specified by ISO 9606 (or equivalent) qualification tests. Learners may be found competent in accordance with the assessment criteria of the applicable SAQA-registered unit standard after being quality-assured by the presiding ETQA.

Due to the wide reference list of international standards (Welding Code Specifications), an open range statement has been developed for those learning outcomes which refer to "Inspect the welded workpiece". Range statement: "Welded joints acceptance criteria to be in accordance with national and/or international welding standards", refers to:

American Welding Society (AWS):

- > AWS D1.1 Structural Welding Code Steel.
- > AWS D1.2 Structural Welding Code Aluminum.
- > AWS D1.3 Structural Welding Code Sheet Steel.
- > AWS D1.4 Structural Welding Code Reinforcing Steel.
- > AWS D1.5 Bridge Welding Code.
- > AWS D10.9 Welding Code for Pipe and Tubing.

American Society of Mechanical Engineers (ASME)/ASME Section IX Boiler & Pressure Vessel Code.

American Petroleum Institute (API)/Standard 1104 for Welding Pipe Lines and Related Facilities.

British Standard (BS):

- > BS 4870 Approval Testing of Welding Procedures.
- > BS 4871 Approval Testing Of Welders Working To Approved Welding Procedures.
- > BS 4872 Approval Testing Of Welders When Welding Procedure Approval Is Not Required.

International Standard Organization (ISO):

> ISO 9606 -1 Approval Testing of Welders - Fusion Welding Part 1: Steel.

This Welding Qualification compares well with the best international qualifications and training programmes offered. The additional operational content incorporated in the qualification will serve to support qualifying learners to make better informed, autonomous decisions within a more expansive timeframe than international learners.

ARTICULATION OPTIONS

This qualification allows for both horizontal and vertical articulation:

Vertical articulation can occur with:

> 24213: National Certificate: Welding Application and Practice: NQF Level 3.

Horizontal articulation can occur with:

> 23273: National Certificates in Mechanical Engineering (Fitting): NQF 2.

> 23277: National Certificates in Mechanical Engineering (Machining): NQF 2.

> 22869: National Certificates in Engineering (Fabrication): NQF 2.

> 49689: National Certificates in Automotive Repairs and Maintenance: NQF 2.

MODERATION OPTIONS

> Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with an appropriate Education, Training, Quality Assurance (ETQA) Body or with an ETQA that has a 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 or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.

> Moderation of assessment will be overseen by the relevant ETQA or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.

> 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 as well as in the exit level outcomes described in the Qualification.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

The following criteria should be applied by the relevant ETQA:

> Appropriate Qualification in the field of welding application and practice at NQF level 3 and a minimum of 2 years' experience in the welding industry.

> Appropriate experience and understanding of assessment theory, processes and practices.

> Registration as an assessor with the relevant ETQA.

NOTES

This qualification replaces qualification 24214, " National certificate: Welding application and practice ", Level 2, 161 credits.

This submission is the product of the combined review process of the following qualifications:

> SAQA ID: 24214 - National Certificate: Welding Application and Practise, Level 2.

> SAQA 0151/03 on 03 December 2003.

And

> National Certificate: Chemical Welder (Interim-registered.) SAQA ID: 13634.

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	12219 Select, use and care for engineering power tools	Level 2	6	Reregistered

Core	12476	Select, use and care for engineering measuring equipment	Level 2	4	Registered
Core	14683	Apply work site practices	Level 2	5	Registered
Core	14712	Identify and select material to specification	Level 2	5	Registered
Core	14713	Use welding definitions and symbols	Level 2	5	Registered
Core	14722	Describe the welding industry's composition its productivity requirements and communication techniques	Level 2	5	Registered
Core	119744	Select, use and care for engineering hand tools	Level 2	8	Registered
Core	243063	Weld carbon steel work-pieces using the shielded metal arc welding process in the down-hand position.	Level 2	15	Draft - Prep for P Comment
Core	243066	Weld carbon steel workpieces using the gas metal arc welding process in the down-hand position	Level 2	8	Draft - Prep for P Comment
Core	243067	Cut materials using the oxy-fuel gas cutting process (manual cutting)	Level 2	6	Draft - Prep for P Comment
Core	243069	Braze metals using the oxy-fuel brazing process	Level 2	6	Draft - Prep for P Comment
Core	243072	Weld workpieces using the oxy-acetylene gas welding process in the downhand position	Level 2	10	Draft - Prep for P Comment
Core	243076	Weld carbon steel workpieces using the cored-wire welding process in the downhand position	Level 2	8	Draft - Prep for P Comment
Core	243068	Weld carbon steel workpieces using the gas tungsten arc welding process in the downhand position	Level 3	15	Draft - Prep for P Comment
Elective	116932	Operate a personal computer system	Level 1	3	Registered
Elective	117867	Managing files in a Graphical User Interface (GUI) environment	Level 1	3	Registered
Elective	117902	Use generic functions in a Graphical User interface (GUI)-environment	Level 1	4	Registered
Elective	9672	Erect and dismantle scaffolding	Level 2	5	Registered
Elective	12240	Form and shape sheetmetal using hand or power operated machines	Level 2	8	Reregistered
Elective	12483	Perform basic first aid	Level 2	4	Reregistered
Elective	12484	Perform basic fire fighting	Level 2	4	Reregistered
Elective	13222	Deal with safety, health and environmental emergencies in the workplace	Level 2	4	Reregistered
Elective	14701	Join sheetmetal with resistance arc welding process	Level 2	4	Registered
Elective	14706	Perform basic rigging procedures	Level 2	4	Registered
Elective	116235	Operate a pendant controlled overhead crane	Level 2	5	Registered
Elective	243055	Prepare and secure work pieces for welding (includes the use of manipulators)	Level 2	8	Draft - Prep for P Comment
Elective	243056	Weld carbon steel workpieces using the shielded metal arc welding process in all positions	Level 2	16	Draft - Prep for P Comment
Elective	243061	Assemble work pieces in jigs (minor amendments include the use of manipulators)	Level 2	3	Draft - Prep for P Comment
Elective	243064	Weld carbon steel workpieces, using the gas metal arc welding process in all positions	Level 2	15	Draft - Prep for P Comment
Elective	243074	Weld carbon steel components, using the submerged arc welding process in a downhand position	Level 2	12	Draft - Prep for P Comment
Elective	243075	Draw and interpret simple plate, pipe and structural steel plate, pipe and structural steel drawings	Level 2	6	Draft - Prep for P Comment
Fundamental	7469	Use mathematics to investigate and monitor the financial aspects of personal and community life	Level 2	2	Reregistered
Fundamental	7480	Demonstrate understanding of rational and irrational numbers and number systems	Level 2	3	Reregistered
Fundamental	9007	Work with a range of patterns and functions and solve problems	Level 2	5	Reregistered
Fundamental	9009	Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	Level 2	3	Reregistered
Fundamental	12444	Measure, estimate and calculate physical quantities and explore, describe and represent geometrical relationships in 2-dimensions in different life or workplace contexts	Level 2	3	Reregistered
Fundamental	119454	Maintain and adapt oral/signed communication	Level 2	5	Registered
Fundamental	119456	Write/present for a defined context	Level 2	5	Registered
Fundamental	119460	Use language and communication in occupational learning programmes	Level 2	5	Registered
Fundamental	119463	Access and use information from texts	Level 2	5	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Prepare and secure work pieces for welding (includes the use of manipulators)

SAQA US ID	UNIT STANDARD TITLE		
243055	Prepare and secure work pieces for welding (includes the use of manipulators)		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 2	Regular

SPECIFIC OUTCOME 1

Plan the preparation process for the job.

SPECIFIC OUTCOME 2

Identify and select tools and equipment.

SPECIFIC OUTCOME 3

Prepare work pieces for welding.

SPECIFIC OUTCOME 4

Assess end product.

SPECIFIC OUTCOME 5

Complete documentation.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

Weld carbon steel workpieces using the shielded metal arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243056	Weld carbon steel workpieces using the shielded metal arc welding process in all positions		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	16	Level 2	Regular

SPECIFIC OUTCOME 1

Describe and assemble the shielded metal arc welding equipment.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre operational checks of shielded metal arc welding equipment.

SPECIFIC OUTCOME 3

Prepare workpieces prior to welding.

SPECIFIC OUTCOME 4

Weld workpieces.

SPECIFIC OUTCOME 5

Inspect welded work piece.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Assemble work pieces in jigs (minor amendments include the use of manipulators)

SAQA US ID	UNIT STANDARD TITLE		
243061	Assemble work pieces in jigs (minor amendments include the use of manipulators)		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 2	Regular

SPECIFIC OUTCOME 1

Follow the assembling procedure of jiggling work pieces prior to welding.

SPECIFIC OUTCOME 2

Identify and select components and jigs.

SPECIFIC OUTCOME 3

Assemble components.

SPECIFIC OUTCOME 4

Inspect assembled work piece.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

4

Weld carbon steel work-pieces using the shielded metal arc welding process in the down-hand position.

SAQA US ID	UNIT STANDARD TITLE		
243063	Weld carbon steel work-pieces using the shielded metal arc welding process in the down-hand position.		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 2	Regular

SPECIFIC OUTCOME 1

Describe the shielded metal arc welding process.

SPECIFIC OUTCOME 2

Select, set up and conduct pre-operational checks of shielded metal arc welding equipment.

SPECIFIC OUTCOME 3

Prepare workpieces prior to welding.

SPECIFIC OUTCOME 4

Weld workpieces.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects in compliance with drawing specifications.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

5

Weld carbon steel workpieces, using the gas metal arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243064	Weld carbon steel workpieces, using the gas metal arc welding process in all positions		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 2	Regular

SPECIFIC OUTCOME 1

Describing the gas metal arc welding process and related equipment.

SPECIFIC OUTCOME 2

Select, set up and conduct pre-operational checks of gas metal arc welding equipment.

SPECIFIC OUTCOME 3

Prepare workpieces prior to welding.

SPECIFIC OUTCOME 4

Weld workpieces.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

6

Weld carbon steel workpieces using the gas metal arc welding process in the down-hand position

SAQA US ID	UNIT STANDARD TITLE		
243066	Weld carbon steel workpieces using the gas metal arc welding process in the down-hand position		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 2	Regular

SPECIFIC OUTCOME 1

Describe the gas metal arc welding process and related equipment.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre-operational checks of gas metal arc welding equipment.

SPECIFIC OUTCOME 3

Prepare workpieces prior to welding.

SPECIFIC OUTCOME 4

Weld workpieces.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

7

Cut materials using the oxy-fuel gas cutting process (manual cutting)

SAQA US ID	UNIT STANDARD TITLE		
243067	Cut materials using the oxy-fuel gas cutting process (manual cutting)		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	6	Level 2	Regular

SPECIFIC OUTCOME 1

Describe the oxy-fuel cutting process.

SPECIFIC OUTCOME 2

Prepare for the oxy-fuel cutting operation.

SPECIFIC OUTCOME 3

Cut material.

SPECIFIC OUTCOME 4

Care and storage of cutting equipment, tools, and materials.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

8

Braze metals using the oxy-fuel brazing process

SAQA US ID	UNIT STANDARD TITLE		
243069	Braze metals using the oxy-fuel brazing process		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	6	Level 2	Regular

SPECIFIC OUTCOME 1

Describe the oxy-fuel brazing process.

SPECIFIC OUTCOME 2

Prepare workpiece prior to brazing.

SPECIFIC OUTCOME 3

Prepare workpieces prior to brazing.

SPECIFIC OUTCOME 4

Braze workpiece.

SPECIFIC OUTCOME 5

Inspect brazed workpiece.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

9

Weld workpieces using the oxy-acetylene gas welding process in the downhand position

SAQA US ID	UNIT STANDARD TITLE		
243072	Weld workpieces using the oxy-acetylene gas welding process in the downhand position		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 2	Regular

SPECIFIC OUTCOME 1

Describe and explain the oxy-acetylene gas welding process.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre operational checks of oxy-acetylene gas welding equipment.

SPECIFIC OUTCOME 3

Prepare workpieces prior to welding.

SPECIFIC OUTCOME 4

Weld metals with oxy-acetylene gas welding process.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

10

Weld carbon steel components, using the submerged arc welding process in a downhand position

SAQA US ID	UNIT STANDARD TITLE		
243074	Weld carbon steel components, using the submerged arc welding process in a downhand position		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 2	Regular

SPECIFIC OUTCOME 1

Describe and explain the submerged arc welding process and related equipment.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre-operational checks of submerged arc welding equipment.

SPECIFIC OUTCOME 3

Prepare component/s prior to welding.

SPECIFIC OUTCOME 4

Weld workpiece.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

11

Draw and interpret simple plate, pipe and structural steel plate, pipe and structural steel drawings

SAQA US ID	UNIT STANDARD TITLE		
243075	Draw and interpret simple plate, pipe and structural steel plate, pipe and structural steel drawings		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	6	Level 2	Regular

SPECIFIC OUTCOME 1

Demonstrate methods of construction to produce basic plate, pipe and structural steel plate, pipe and structural steel drawings and sketches.

SPECIFIC OUTCOME 2

Draw and interpret basic plate, pipe and structural steel engineering projections.

SPECIFIC OUTCOME 3

Interpret and draw a development using the parallel-line method.

SPECIFIC OUTCOME 4

Interpret and draw a development using the radial-line method.

SPECIFIC OUTCOME 5

Interpret and draw a development using triangulation.

SPECIFIC OUTCOME 6

Interpret and draw isometric pipe drawings.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

12

Weld carbon steel workpieces using the cored-wire welding process in the downhand position

SAQA US ID	UNIT STANDARD TITLE		
243076	Weld carbon steel workpieces using the cored-wire welding process in the downhand position		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 2	Regular

SPECIFIC OUTCOME 1

Describe the cored-wire welding process.

SPECIFIC OUTCOME 2

Select, set up and conduct pre-operational checks of cored-wire welding equipment.

SPECIFIC OUTCOME 3

Prepare workpieces prior to welding.

SPECIFIC OUTCOME 4

Weld workpieces.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

National Certificate: Welding Application and Practice

SAQA QUAL ID	QUALIFICATION TITLE		
57886	National Certificate: Welding Application and Practice		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD	
National Certificate	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	151	Level 3	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of this Qualification is to provide learners with the standards and the range of learning required to work effectively in the welding industry and to meet the challenges of such an environment.

This Qualification recognises the intermediate level skills, knowledge and values acquired by learners involved in welding. The purpose of this Qualification is to develop learners who, after completion, demonstrate the ability to:

- > Use and apply a variety of plate welding, cutting, and gouging processes according to performance standards.
- > Demonstrate an understanding of welding procedures and the quality of welded components.
- > Maintain organizational relationships through effective communication with clients, peers and members of supervisory/management levels.
 - > Range: Maintaining effective relationships; verbal and written reporting; exploring options for further learning.

Welding skills and techniques play a role in this Qualification.

This Qualification requires that learners apply intermediate level welding practice and theoretical knowledge, within any of the following environments:

- > Manufacturing and Assembly.
- > Chemical Plant Installations.
- > Food Processing Plant Installations.
- > Mining.
- > Building and Construction.
- > This qualification may be applied in other relevant engineering environments.

Qualifying learners will also understand:

- > The basics of business finance.
- > The investigation and monitoring of the financial aspects of personal, business and national issues.
- > Effective communication techniques (oral and written) when dealing with clients and fellow workers, while participating in workplace activities.
- > Applicable numeracy skills at this level.
- > Managing work-time effectively (Productivity).

What learners achieve in this Qualification will also serve as a basis for further learning where they will

further develop their skills and knowledge to include more complex welding processes and techniques.

Rationale:

This is the second Qualification in a learning pathway for learners who want to follow a career in welding. The qualification replaces the National Certificate: Welding Application and Practice NQF Level 3, and the intermily registered qualification: National Certificate: Chemical Welder (NQF Level 3).

This Qualification focuses on developing skills and knowledge necessary to establish a career in welding at an intermediate level.

The welding industry operates in a competitive and challenging environment. The finished processes have to respond to a wide variety of exacting customer and consumer requirements. In addition, the industry has to respond to international competition and environmental issues.

Welding application and practice require joining and cutting of materials that meet national and international requirements. Welding generally requires the joining of material that is subjected to considerable stress when in operation and the welding process therefore needs to be consistent and accurate.

This Qualification forms part of a series at different levels to create opportunities for development, a career path and greater security of employment within the welding industry.

This Qualification enables learners who have gained relevant experience in the workplace to obtain credits through the RPL process.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

It is assumed that learners are already competent in Communication and Mathematical Literacy at NQF Level 2.

Recognition of Prior Learning:

This qualification may be obtained in part or wholly through the recognition of prior learning. 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.

Access to the Qualification:

Access to this qualification is open. However, it is preferable that learners have completed the National Certificate: Welding Application and Practice: NQF Level 2.

QUALIFICATION RULES

The rules of combination for this Qualification:

- > All the fundamental unit standards totalling 40 credits are compulsory.
- > All the core unit standards totalling 95 credits are compulsory.
- > A minimum of 16 credits should be chosen from the electives.

A minimum of 151 is required to obtain the qualification.

EXIT LEVEL OUTCOMES

1. Use and apply a variety of plate welding, cutting, and gouging processes according to performance standards.
2. Demonstrate an understanding of welding procedures and the quality of welded components.
3. Maintain organizational relationships through effective communication with clients, peers and members of supervisory/management levels.

Range: Maintaining effective relationships; verbal and written reporting; exploring options for further learning.

ASSOCIATED ASSESSMENT CRITERIA

1.
 - > Plate welding technique is applied and tested in all positions according to performance standards.
 - > Welding processes are applied in accordance with performance standards.
 - > Range: Welding processes include shielded metal arc welding; gas metal arc welding; gas tungsten arc welding; cored-wire welding and oxy-fuel welding.
 - > Cutting and gouging processes are applied in accordance with performance standards.
 - > Range: Cutting and gouging processes include oxy-fuel cutting, air-carbon arc and/or shielded metal arc gouging processes.
 - > Workpieces are secured prior to welding, post-weld defects are eliminated in accordance with performance standards.
 - > Range: Defects refer to warping; misalignment; non-rectilinear work; cracks and distortion.
 - > Safety practices and procedures relevant to the fabrication and welding industry are applied in accordance with applicable legislation.
2.
 - > Quality assurance practices applicable to the fabrication and welding industry are monitored and controlled by ensuring compliance to specification procedures.
 - > Productivity is maintained and production results are reflected with the use of tables and graphs.
3.
 - > Relationships with peers, supervisory and management levels are established and functioning to promote communication within the workplace.
 - > Correct information is communicated through written reports.
 - > Problems are identified in a timely manner, reported and discussed and the agreed corrective action is implemented.
 - > Learning opportunities and preparation requirements are identified and a learning plan is developed.

Integrated Assessment:

Integrated assessment during this qualification provides an opportunity for learners to show they are able to integrate lifeskills and values achieved across a range of unit standards and contexts, with the added practical orientation gained at this level. Integrated assessment must evaluate the quality of observable performance as well as the thinking behind the performance.

Some assessment aspects will demand practical demonstration while others may not. In some cases inference will be necessary to determine competence depending on the nature and context within which performance takes place.

Assessors will collect evidence of the learner's competence by:

- > Observing the learner at work (both in primary activities as well as other interactions) or by relevant simulations.
- > Asking questions and initiating short discussions to test understanding.
- > Looking at records and reports.

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 on the approach being taken.

Since this is an intermediate level qualification, it is necessary to ensure that the lifeskills part of the qualification is also targeted to ensure that while the competence may have been achieved in the skills context, learners are able to apply it in a range of other contexts and for further learning, emphasizing leadership and responsibility. The assessment should also ensure that the critical cross-field outcomes have been achieved.

INTERNATIONAL COMPARABILITY

International comparability in welding programmes has two divergent categories:

- > Comparative education and training content, at a specific levels within the context of the South African National Qualifications Framework (NQF).
- > Comparative quality assurance standards for international qualification, certification and licensing.

Comparative education and training content:

It must be stated from the outset of this statement that reference to international benchmarking for this qualification series, applies only to the education and training content at specific levels between NQF 2, 3 and 4 and its measure of "appropriateness" when compared with welder training programmes internationally.

International Benchmarking was done against the contents of the International Welder Qualification as specified and prepared by the International Authorisation Board (IAB Group A, WG A3A; IAB-089-2003/EWF-452-467-480-481 Rev.3 - January 2005; expires 31st December 2007). This benchmarking was done in order to align the education and training content of this Qualification Series: National Certificate in Welding Application and Practice NQF 2 and 3 and Further Education and Training Certificate NQF 4, according to international standards.

The comparison with the training approach advocated by the International Welding Institute (IIW) through its "Bratislava Agreement" is particularly valuable, since they also lead to a European Community (EC) standard for Welding, making the International Welder Diploma equivalent to the European Welder Diploma. Participants in the "Bratislava Agreement" include the South African Institute of Welding (SAIW).

This exercise also included an investigation into the American (USA) Welding Society's (AWS) approach to introductory, intermediate and advanced education and training programmes related to welding. African countries with manufacturing and engineering infrastructure (including SADC countries) were scanned for applicable qualifications or training programmes, but no relevant qualifications are offered in any of these countries.

Good international comparability, including similar core qualification structures and progressions from NQF Level 2 to NQF Level 3, were found in the Australian, New Zealand, British and Scottish qualifications.

A direct comparison with these international qualifications indicates that the education and training focus of all the qualifications is basically the same. The reference to level descriptors differ, in order to accommodate the NQF and outcomes-based education approach. This qualification series therefore makes an attempt at equating the education and training content of the three international skills levels by creating three distinct South African (NQF) welding qualifications, viz:

- > International fillet welder - National Certificate in Welding Application and Practice NQF 2.
- > International plate welder - National Certificate in Welding Application and Practice NQF 3.
- > International pipe welder - Further Education and Training Certificate in Welding Application and Practice NQF 4.

Comparative quality assurance standards:

This qualification series differs from the international qualification benchmark, in that it does not require the welded work of learners to be quality assured according to the criteria specified by ISO 9606 (or equivalent) qualification tests. Learners may be found competent in accordance with the assessment criteria of the applicable SAQA-registered unit standard after being quality-assured by the presiding ETQA.

Due to the wide reference list of international standards (Welding Code Specifications), an open range statement has been developed for those learning outcomes which refer to "Inspect the welded workpiece". Range statement: "Welded joints acceptance criteria to be in accordance with national and/or international welding standards", refers to:

American Welding Society (AWS):

- > AWS D1.1 Structural Welding Code Steel.
- > AWS D1.2 Structural Welding Code Aluminum.
- > AWS D1.3 Structural Welding Code Sheet Steel.
- > AWS D1.4 Structural Welding Code Reinforcing Steel.
- > AWS D1.5 Bridge Welding Code.
- > AWS D10.9 Welding Code for Pipe and Tubing.

American Society of Mechanical Engineers (ASME)/ASME Section IX Boiler & Pressure Vessel Code.

American Petroleum Institute (API)/Standard 1104 for Welding Pipe Lines and Related Facilities.

British Standard (BS):

- > BS 4870 Approval Testing of Welding Procedures.
- > BS 4871 Approval Testing Of Welders Working To Approved Welding Procedures.

- > BS 4872 Approval Testing Of Welders When Welding Procedure Approval Is Not Required.

International Standard Organization (ISO):

- > ISO 9606 -1 Approval Testing of Welders - Fusion Welding Part 1: Steel.

This Welding Qualification compares well with the best international qualifications and training programmes offered. The additional operational content incorporated in the qualification will serve to support qualifying learners to make better informed, autonomous decisions within a more expansive timeframe than international learners.

ARTICULATION OPTIONS

This qualification allows for both horizontal and vertical articulation.

- > Vertical articulation can occur with:

- > ID 57887: FETC: Welding Application and Practice, NQF 4.

- > Horizontal articulation can occur with:

- > ID 22870: National Certificates in Engineering: Fabrication, NQF 3.

- > ID 23274: National Certificates in Mechanical Engineering: Fitting, NQF 3.

- > ID 23278: National Certificates in Mechanical Engineering: Machining, NQF 3.

- > ID 23280: National Certificates in Mechanical Engineering: Tooling Manufacture, NQF 3.

MODERATION OPTIONS

- > Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with an appropriate Education, Training, Quality Assurance (ETQA) Body or with an ETQA that has a 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 or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.

- > Moderation of assessment will be overseen by the relevant ETQA or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.

- > 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 as well as in the exit level outcomes described in the Qualification.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

The following criteria should be applied by the relevant ETQA:

- > Appropriate Qualification in the field of welding application and practice at NQF level 4 and a minimum of 2 years' experience in the welding industry. The subject matter experience of the assessor can be established by recognition of prior learning.

- > Registration as an assessor with the relevant ETQA.

NOTES

This qualification replaces qualification 24213, "National Certificate: Welding Application and Practice", Level 3, 174 credits.

This submission is the product of the combined review process of the following qualifications:

- > SAQA ID: 24213 - National Certificate: Welding Application and Practise, Level 3.

- > SAQA 0151/03 registered on 03 December 2003.

- > SAQA ID: 13633 - National Certificate: Chemical Welder (Interim-regd.).

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	243055 Prepare and secure work pieces for welding (includes the use of manipulators)	Level 2	8	Draft - Prep for P Comment
Core	243056 Weld carbon steel workpieces using the shielded metal arc welding process in all positions	Level 2	16	Draft - Prep for P Comment
Core	243064 Weld carbon steel workpieces, using the gas metal arc welding process in all positions	Level 2	15	Draft - Prep for P Comment
Core	14707 Gouge material with air-carbon-arc gouging process	Level 3	10	Registered
Core	243052 Weld carbon steel workpieces using the cored-wire welding process in all positions	Level 3	8	Draft - Prep for P Comment
Core	243053 Weld carbon steel workpieces using the oxy-acetylene gas welding process in all positions	Level 3	10	Draft - Prep for P Comment
Core	243058 Weld carbon steel workpieces using the gas tungsten arc welding process in all positions	Level 3	25	Draft - Prep for P Comment
Elective	12238 Draw and interpret simple engineering drawings	Level 2	10	Reregistered
Elective	12483 Perform basic first aid	Level 2	4	Reregistered
Elective	12484 Perform basic fire fighting	Level 2	4	Reregistered
Elective	243061 Assemble work pieces in jigs (minor amendments include the use of manipulators)	Level 2	3	Draft - Prep for P Comment
Elective	243074 Weld carbon steel components, using the submerged arc welding process in a downhand position	Level 2	12	Draft - Prep for P Comment
Elective	8038 Operating lift trucks	Level 3	6	Reregistered
Elective	8039 Operating cranes	Level 3	10	Registered
Elective	9533 Use communication skills to handle and resolve conflict in the workplace	Level 3	3	Reregistered
Elective	12457 Develop learning strategies and techniques	Level 3	3	Registered
Elective	14695 Remove material with the shields metal arc gouging process	Level 3	8	Registered
Elective	243077 Cut material using the oxy-fuel pipe cutting device	Level 3	3	Draft - Prep for P Comment
Elective	243078 Perform destructive testing on welded specimens	Level 3	5	Draft - Prep for P Comment
Elective	243080 Cut material using the oxy-fuel profile cutting machine	Level 3	5	Draft - Prep for P Comment
Elective	243081 Cut material using the oxy-fuel straight-line cutting machine	Level 3	3	Draft - Prep for P Comment
Elective	243086 Draw and interpret complex plate, pipe and structural steel plate, pipe and structural steel drawings	Level 3	6	Draft - Prep for P Comment
Elective	243057 Weld workpieces within the stainless steel material group, using the gas tungsten arc welding process in all positions	Level 4	10	Draft - Prep for P Comment
Elective	243059 Weld workpieces in the stainless steel material group, using the gas metal arc welding process in all positions	Level 4	10	Draft - Prep for P Comment
Elective	243079 Weld workpieces within the aluminium material group, using the gas tungsten arc welding process in all positions.	Level 4	10	Draft - Prep for P Comment
Elective	243088 Weld carbon steel pipe, with combination welding processes using the gas tungsten arc welding and gas metal arc welding, in all positions	Level 4	8	Draft - Prep for P Comment
Elective	243089 Weld workpieces within the aluminium material group, using the gas metal arc welding process in all positions	Level 4	10	Draft - Prep for P Comment
Fundamental	116937 Use a Graphical User Interface (GUI)-based spreadsheet application to create and edit spreadsheets	Level 2	4	Registered
Fundamental	7456 Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	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	9528 Communicate with clients	Level 3	3	Reregistered
Fundamental	12488 Complete feasibility and commissioning reports	Level 3	3	Registered
Fundamental	119457 Interpret and use information from texts	Level 3	5	Registered
Fundamental	119465 Write/present/sign texts for a range of communicative contexts	Level 3	5	Registered
Fundamental	119472 Accommodate audience and context needs in oral/signed communication	Level 3	5	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Weld carbon steel workpieces using the cored-wire welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243052	Weld carbon steel workpieces using the cored-wire welding process in all positions		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 3	Regular

SPECIFIC OUTCOME 1

Describe the cored-wire welding process.

SPECIFIC OUTCOME 2

Select, set up and conduct pre-operational checks.

SPECIFIC OUTCOME 3

Prepare workpieces prior to welding.

SPECIFIC OUTCOME 4

Weld workpieces.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

Weld carbon steel workpieces using the oxy-acetylene gas welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243053	Weld carbon steel workpieces using the oxy-acetylene gas welding process in all positions		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 3	Regular

SPECIFIC OUTCOME 1

Describe and explain the oxy-acetylene gas welding process.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre operational checks of oxy-acetylene gas welding equipment.

SPECIFIC OUTCOME 3

Prepare workpieces prior to welding.

SPECIFIC OUTCOME 4

Weld metals with oxy-acetylene gas welding process.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Weld carbon steel workpieces using the gas tungsten arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243058	Weld carbon steel workpieces using the gas tungsten arc welding process in all positions		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	25	Level 3	Regular

SPECIFIC OUTCOME 1

Describe and explain the gas tungsten arc welding process.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre-operational checks of gas tungsten arc welding equipment.

SPECIFIC OUTCOME 3

Prepare workpieces prior to welding.

SPECIFIC OUTCOME 4

Weld workpieces.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

4

**Weld workpieces in the stainless steel material group, using the gas metal arc welding process
in all positions**

SAQA US ID	UNIT STANDARD TITLE		
243059	Weld workpieces in the stainless steel material group, using the gas metal arc welding process in all positions		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and assemble gas metal arc welding equipment.

SPECIFIC OUTCOME 2

Select, correctly assemble and conduct pre-operational checks of gas metal arc welding equipment.

SPECIFIC OUTCOME 3

Prepare workpiece prior to welding.

SPECIFIC OUTCOME 4

Weld workpiece.

SPECIFIC OUTCOME 5

Inspect welded workpiece.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

5

Weld carbon steel workpieces using the gas tungsten arc welding process in the downhand position

SAQA US ID	UNIT STANDARD TITLE		
243068	Weld carbon steel workpieces using the gas tungsten arc welding process in the downhand position		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 3	Regular

SPECIFIC OUTCOME 1

Describe and explain the gas tungsten arc welding process.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre-operational checks of gas tungsten arc welding equipment.

SPECIFIC OUTCOME 3

Prepare workpieces prior to welding.

SPECIFIC OUTCOME 4

Weld workpieces.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

6

Cut material using the oxy-fuel pipe cutting device

SAQA US ID	UNIT STANDARD TITLE		
243077	Cut material using the oxy-fuel pipe cutting device		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 3	Regular

SPECIFIC OUTCOME 1

Describe and explain the oxy-fuel pipe cutting process.

SPECIFIC OUTCOME 2

Prepare for the oxy-fuel cutting operation.

SPECIFIC OUTCOME 3

Cut pipe to job requirements.

SPECIFIC OUTCOME 4

Inspect the completed cut.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

7

Perform destructive testing on welded specimens

SAQA US ID	UNIT STANDARD TITLE		
243078	Perform destructive testing on welded specimens		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 3	Regular

SPECIFIC OUTCOME 1

Explain and describe the destructive testing process.

SPECIFIC OUTCOME 2

Select and conduct pre-operational checks of destructive testing equipment.

SPECIFIC OUTCOME 3

Prepare specimen prior to destructive testing process.

SPECIFIC OUTCOME 4

Perform destructive testing.

SPECIFIC OUTCOME 5

Inspect test specimen.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

8

Cut material using the oxy-fuel profile cutting machine

SAQA US ID	UNIT STANDARD TITLE		
243080	Cut material using the oxy-fuel profile cutting machine		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 3	Regular

SPECIFIC OUTCOME 1

Describe and explain the oxy-fuel profile cutting process of carbon steel.

SPECIFIC OUTCOME 2

Prepare for the oxy-fuel cutting operation.

SPECIFIC OUTCOME 3

Cut material to job requirements.

SPECIFIC OUTCOME 4

Inspect the completed cut.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

9

Cut material using the oxy-fuel straight-line cutting machine

SAQA US ID	UNIT STANDARD TITLE		
243081	Cut material using the oxy-fuel straight-line cutting machine		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 3	Regular

SPECIFIC OUTCOME 1

Describe and explain the oxy-fuel straight-line cutting process of carbon steel.

SPECIFIC OUTCOME 2

Prepare for the oxy-fuel cutting operation.

SPECIFIC OUTCOME 3

Cut material to job requirements.

SPECIFIC OUTCOME 4

Inspect the completed cut.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

10

Draw and interpret complex plate, pipe and structural steel plate, pipe and structural steel drawings

SAQA US ID	UNIT STANDARD TITLE		
243086	Draw and interpret complex plate, pipe and structural steel plate, pipe and structural steel drawings		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	6	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate methods of construction to produce complex plate and structural steel drawings and sketches.

SPECIFIC OUTCOME 2

Develop cylinders and cylindrical segments.

SPECIFIC OUTCOME 3

Develop cones-, pyramid- and sphere-segments.

SPECIFIC OUTCOME 4

Produce form-to-form (transformer) developments by triangulation.

SPECIFIC OUTCOME 5

Describe structural steel detailing processes and related components.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

11

Weld workpieces within the aluminium material group, using the gas metal arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243089	Weld workpieces within the aluminium material group, using the gas metal arc welding process in all positions		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and assemble gas metal arc welding equipment.

SPECIFIC OUTCOME 2

Select, correctly assemble and conduct pre-operational checks of gas metal arc welding equipment.

SPECIFIC OUTCOME 3

Prepare workpiece prior to welding.

SPECIFIC OUTCOME 4

Weld workpiece.

SPECIFIC OUTCOME 5

Inspect welded workpiece.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

Further Education and Training Certificate: Welding Application and Practice

SAQA QUAL ID	QUALIFICATION TITLE		
57887	Further Education and Training Certificate: Welding Application and Practice		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD	
Further Ed and Training Cert	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	158	Level 4	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of this Qualification is to provide learners, education and training providers and employers with the standards and the range of learning required to work effectively in the welding industry and to meet the challenges of such an environment.

This Qualification is the last of a progression, which culminates in the use of a range of complex welding methods. The purpose of this Qualification is to develop learners who, after completion, demonstrate the ability to:

- > Use and apply a variety of plate and pipe welding processes according to performance standards.
- > Participate in self-directed activity, by complying with welding procedures and maintaining business objectives.
- > Demonstrate leadership through effective interaction and communication with clients, peers and members of supervisory and management levels.
- > Range: Leadership (individual and team); problem solving; technical report writing; exploring options for further learning.

Welding knowledge, technique and reflexive skill play a role in this Qualification.

This Qualification requires that learners apply complex welding practice and theoretical knowledge within the following environments:

- > Manufacture and Assembly.
- > Chemical Plant Installations.
- > Food Processing Plant Installations.
- > Mining.
- > Building and Construction.

Qualifying learners will also understand:

- > Implementation and maintenance of business processes.
- > Supervision of work units.
- > The writing of technical reports.
- > Communication and numeracy skills applicable at this level and appropriate to the work environment.

Rationale:

This is the third Qualification in a learning pathway for learners who want to follow establish a career in

welding. The qualification replaces the Further Education and Training Certificate: Welding Application and Practice (NQF Level 4) and the interimly registered qualification: Further Education and Training Certificate: Chemical Welder (NQF Level 4).

The welding industry operates in a competitive and challenging environment. The finished processes have to respond to a wide variety of exacting customer and consumer requirements. In addition, the industry has to respond to international competition and environmental issues.

Welding application and practice require joining and cutting of materials that meet national and international requirements. Welding generally requires the joining of material that is subjected to considerable stress when in operation and the welding process needs to be consistent and accurate.

This Qualification concludes the series of welding qualifications between NQF Level 2 to NQF Level 4.

There are opportunities for further development and a typical career progression may lead to:

> Quality Assurance, a career path and greater security of employment within the welding industry.

This Qualification enables learners who have gained relevant experience in the workplace to obtain credits through the RPL process. This Qualification also forms the basis for further development in the engineering sector, and in particular, the fabrication and welding industry in general.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

It is assumed that learners are already competent in Communication and Mathematical Literacy at NQF Level 3.

Recognition of Prior Learning:

This qualification can be obtained in part or wholly through the recognition of prior learning.

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.

Access to the qualification:

Access to this qualification is open. However, it is preferable that learners have completed the National Certificate in Welding Application and Practice: NQF Level 3.

QUALIFICATION RULES

> All the Fundamental unit standards totalling 56 credits are compulsory.

> All the Core unit standards totalling 90 is compulsory.

> A minimum of 12 credits should be selected from the Electives.

EXIT LEVEL OUTCOMES

1. Use and apply a variety of plate and pipe welding processes according to performance standards.

2. Participate in self-directed activity, by complying with welding procedures and maintaining business objectives.

3. Demonstrate leadership through effective interaction and communication with clients, peers and members of supervisory and management levels.

> Range: Leadership (individual and team); problem solving; technical report writing; exploring options for further learning.

ASSOCIATED ASSESSMENT CRITERIA

1:

> Pipe welding techniques are applied in all positions and tested in accordance with performance standards.

- > Welding processes are applied in accordance with performance standards.
 - > Range: Welding processes include shielded metal arc welding; gas metal arc welding; gas tungsten arc welding; cored-wire welding and oxy-fuel welding.
- > Techniques of welding stainless and aluminium are applied and tested in accordance performance standards.
 - > Range: Aluminium includes plate.
- > Safety practices and procedures are applied withing a fabrication and welding context.
- > Welding machinery, tools and equipment, are cared for, cleaned and stored according to standard operating procedures.
- > Work-pieces are assessed in accordance with performance qualification standards.

2:

- > Quality assurance practices applicable to the fabrication and welding industry are monitored and controlled by ensuring compliance to specification procedures.
- > Business processes are implemented and maintained, and deviations are critically interrogated and the findings are analysed.
- > Preventative and corrective measures are applied in accordance with organisational procedures.

3:

- > Relationships with peers, supervisory and management levels are established and leadership is demonstrated by assertive communication and behaviour within the workplace.
- > Correct technical information is communicated using written reports.
- > Problems are identified and are resolved by implementing corrective action.
- > Learning opportunities and preparation requirements are identified and a learning plan is developed.

Integrated assessment:

Integrated assessment during, this qualification provides an opportunity for learners to show they are able to integrate life skills and values achieved across a range of unit standards and contexts, with the added practical orientation gained at this level.

Integrated assessment must evaluate the quality of observable performance as well as the thinking behind the performance.

Some assessment aspects will demand practical demonstration while others may not. In some cases inference will be necessary to determine competence depending on the nature and context within which performance takes place.

Assessors will collect evidence of the learner's competence by:

- > Observing the learner at work (both in primary activities as well as other interactions) or by relevant simulations.
- > Asking questions and initiating short discussions to test understanding.
- > Looking at records and reports.

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 on the approach being taken.

Since this is an intermediate level qualification, it is necessary to ensure that the life skills part of the qualification is also targeted to ensure that while the competence may have been achieved in the skills context, learners are able to apply it in a range of other contexts and for further learning, emphasizing leadership and responsibility. The assessment should also ensure that the Critical Cross-Field Outcomes have been achieved.

INTERNATIONAL COMPARABILITY

International comparability in welding programmes has two divergent categories:

- > Comparative education and training content, at a specific levels within the context of the South African National Qualifications Framework (NQF).
- > Comparative quality assurance standards for international qualification, certification and licensing.
- > Comparative education and training content:

It must be stated from the outset of this statement that reference to international benchmarking for this qualification series, applies only to the education and training content at specific levels between NQF 2, 3 and 4 and its measure of "appropriateness" when compared with welder training programmes internationally.

International benchmarking was done against the contents of the International Welder Qualification as specified and prepared by the International Authorisation Board (IAB Group A, WG A3A; IAB-089-2003/EWF-452-467-480-481 Rev.3 - January 2005; expires 31st December 2007). This benchmarking was done in order to align the education and training content of this Qualification Series: National Certificate in Welding Application and Practice NQF 2 and 3 and Further Education and Training Certificate NQF 4, according to international standards.

The comparison with the training approach advocated by the International Welding Institute (IIW) through its "Bratislava Agreement" is particularly valuable, since they also lead to a European Community (EC) standard for Welding, making the International Welder Diploma equivalent to the European Welder Diploma. Participants in the "Bratislava Agreement" include the South African Institute of Welding (SAIW).

This exercise also included an investigation into the American (USA) Welding Society's (AWS) approach to introductory, intermediate and advanced education and training programmes related to welding.

African countries with manufacturing and engineering infrastructure (including SADC countries) were scanned for applicable qualifications or training programmes, but no relevant qualifications are offered in any of these countries.

Good international comparability, including similar core qualification structures and progressions from NQF Level 2 to NQF Level 3, were found in the Australian, New Zealand, British and Scottish qualifications.

A direct comparison with these international qualifications indicates that the education and training focus of all the qualifications is basically the same. The reference to level descriptors differ, in order to accommodate the NQF and outcomes-based education approach. This qualification series therefore makes an attempt at equating the education and training content of the three international skills levels by creating three distinct South African (NQF) welding qualifications, viz:

- > International fillet welder - National Certificate in Welding Application and Practice NQF 2.
- > International plate welder - National Certificate in Welding Application and Practice NQF 3.
- > International pipe welder - Further Education and Training Certificate in Welding Application and Practice NQF 4.

- > Comparative quality assurance standards:

This qualification series differs from the international qualification benchmark, in that it does not require the welded work of learners to be quality assured according to the criteria specified by ISO 9606 (or equivalent) qualification tests. Learners may be found competent in accordance with the assessment criteria of the applicable SAQA-registered unit standard after being quality-assured by the presiding ETQA.

Due to the wide reference list of international standards (Welding Code Specifications), an open range statement has been developed for those learning outcomes which refer to "Inspect the welded workpiece".

Range statement: ".....Welded joints acceptance criteria to be in accordance with national and/or international welding standards", refers to:

- > American Welding Society (AWS):
 - > AWS D1.1 Structural Welding Code Steel.
 - > AWS D1.2 Structural Welding Code Aluminium.
 - > AWS D1.3 Structural Welding Code Sheet Steel.
 - > AWS D1.4 Structural Welding Code Reinforcing Steel.
 - > AWS D1.5 Bridge Welding Code.
 - > AWS D10.9 Welding Code for Pipe and Tubing.

- > American Society of Mechanical Engineers (ASME)/ASME Section IX Boiler & Pressure Vessel Code.
- > American Petroleum Institute (API)/Standard 1104 for Welding Pipe Lines and Related Facilities.
- > British Standard (BS):
 - > BS 4870 Approval Testing of Welding Procedures.
 - > BS 4871 Approval Testing Of Welders Working To Approved Welding Procedures.
 - > BS 4872 Approval Testing Of Welders When Welding Procedure Approval Is Not Required.
- > International Standard Organization (ISO):
 - > ISO 9606 -1 Approval Testing of Welders - Fusion Welding Part 1: Steel.

This Welding Qualification compares well with the best international qualifications and training programmes offered. The additional operational content incorporated in the qualification will serve to support qualifying learners to make better informed, autonomous decisions within a more expansive timeframe than international learners.

ARTICULATION OPTIONS

The Qualification has been designed and structured so that qualifying learners can move from one engineering context to another. This can be achieved by the appropriate selection of credits in the elective category. Equally, holders of other similar welding Qualifications may be evaluated against this Qualification for the purpose of RPL.

Horizontal articulation:

- > Fundamental learning at this level applies to equivalent credit accrual for most engineering qualifications at NQF Level 4.
- > Core learning at this level applies to equivalent credit accrual for some unit standards in the following qualifications at NQF Level 4:
 - > 22871: National Certificate: Engineering Fabrication (light or heavy).
 - > 23275: National Certificate: Mechanical Engineering: Fitting.
 - > 23279: National Certificate: Mechanical Engineering: Machining.
 - > 23281: National Certificate: Mechanical Engineering: Tooling Manufacture.

Vertical articulation:

- > Successful learners having attained the Further Education and Training Certificate: Welding Application and Practice, may advance to:
 - > 49061: National Certificate: Master Craftsmanship (Electrical), NQF Level 5.
- Or:
 - > 49059: National Diploma: Master Craftsmanship (Electrical), NQF Level 5.

MODERATION OPTIONS

- > Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with an appropriate Education, Training, Quality Assurance (ETQA) Body or with an ETQA that has a 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 or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.
- > Moderation of assessment will be overseen by the relevant ETQA or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.
- > 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 as well as in the exit level outcomes described in the Qualification.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

The following criteria should be applied by the relevant ETQA:

> Appropriate Qualification in the field of welding application and practice at NQF level 5 and a minimum of 2 years experience in the welding industry.

> Registration as an assessor with the relevant ETQA.

NOTES

This qualification replaces qualification 24216, "National Certificate: Welding Application and Practice", Level 4, 169 credits.

This submission is the product of the combined review process of the following qualifications:

> 24216: National Certificate: Welding Application and Practice, NQF Level 4 (SAQA 0151/03 on 03 December 2003).

And:

> 13632: Mechanics: Chemical Welding, NQF Level 4 (Interim-regd.).

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	243049 Weld carbon steel pipe using the cored-wire welding process in all positions	Level 4	10	Draft - Prep for P Comment
Core	243054 Weld carbon steel pipe, using the gas tungsten arc welding process in all positions	Level 4	20	Draft - Prep for P Comment
Core	243057 Weld workpieces within the stainless steel material group, using the gas tungsten arc welding process in all positions	Level 4	10	Draft - Prep for P Comment
Core	243059 Weld workpieces in the stainless steel material group, using the gas metal arc welding process in all positions	Level 4	10	Draft - Prep for P Comment
Core	243062 Weld carbon steel pipe, using the shielded metal arc welding process in all positions	Level 4	20	Draft - Prep for P Comment
Core	243079 Weld workpieces within the aluminium material group, using the gas tungsten arc welding process in all positions.	Level 4	10	Draft - Prep for P Comment
Core	243089 Weld workpieces within the aluminium material group, using the gas metal arc welding process in all positions	Level 4	10	Draft - Prep for P Comment
Elective	10981 Supervise work unit to achieve work unit objectives (individuals and teams)	Level 4	12	Reregistered
Elective	13254 Contribute to the implementation and maintenance of business processes	Level 4	10	Registered
Elective	14473 Develop and produce computer aided drawings	Level 4	4	Reregistered
Elective	14497 Identify, interpret and produce working structural steel drawings	Level 4	8	Registered
Elective	14698 Cut materials using plasma cutting	Level 4	4	Registered
Elective	14721 Weld pipe with oxy-acetylene gas process	Level 4	20	Registered
Elective	114194 Demonstrate understanding of regulations codes and drawing office practices for structural steel detailing	Level 4	7	Registered
Elective	243050 Weld pipe within the stainless steel material group, using the gas tungsten arc welding process in all positions	Level 4	20	Draft - Prep for P Comment
Elective	243051 Weld steel workpieces, using the plasma arc welding process in all positions	Level 4	20	Draft - Prep for P Comment
Elective	243060 Weld pipe within the stainless steel material group, using the gas metal arc welding process in all positions	Level 4	20	Draft - Prep for P Comment
Elective	243065 Weld carbon steel pipe using the gas metal arc welding process in all positions	Level 4	20	Draft - Prep for P Comment
Elective	243070 Programme, use and maintain an industrial robot system	Level 4	10	Draft - Prep for P Comment
Elective	243083 Weld pipe within the aluminium material group, using the gas metal arc welding process in all positions	Level 4	20	Draft - Prep for P Comment
Elective	243085 Weld carbon steel workpieces, using the shielded metal arc and gas tungsten arc combination welding processes, in all positions	Level 4	8	Draft - Prep for P Comment
Elective	243087 Weld pipe within the aluminium material group, using the gas tungsten arc welding process in all positions	Level 4	20	Draft - Prep for P Comment
Elective	243088 Weld carbon steel pipe, with combination welding processes using the gas tungsten arc welding and gas metal arc welding, in all positions	Level 4	8	Draft - Prep for P Comment
Fundamental	119457 Interpret and use information from texts	Level 3	5	Registered
Fundamental	119458 Analyse and respond to a variety of literary texts	Level 3	5	Registered
Fundamental	119466 Interpret a variety of literary texts	Level 3	5	Registered
Fundamental	119472 Accommodate audience and context needs in oral/signed communication	Level 3	5	Registered

Fundamental	7468 Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	Level 4	6	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	119459 Write/present/sign for a wide range of contexts	Level 4	5	Registered
Fundamental	119462 Engage in sustained oral/signed communication and evaluate spoken/signed texts	Level 4	5	Registered
Fundamental	119469 Read/view, analyse and respond to a variety of texts	Level 4	5	Registered
Fundamental	119471 Use language and communication in occupational learning programmes	Level 4	5	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Weld carbon steel pipe using the cored-wire welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243049	Weld carbon steel pipe using the cored-wire welding process in all positions		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 4	Regular

SPECIFIC OUTCOME 1

Describe the cored-wire welding process.

SPECIFIC OUTCOME 2

Select, set up and conduct pre-operational checks.

SPECIFIC OUTCOME 3

Prepare pipe prior to welding.

SPECIFIC OUTCOME 4

Weld pipe.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

**Weld pipe within the stainless steel material group, using the gas tungsten arc welding process
in all positions**

SAQA US ID	UNIT STANDARD TITLE		
243050	Weld pipe within the stainless steel material group, using the gas tungsten arc welding process in all positions		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and assemble gas tungsten arc welding equipment.

SPECIFIC OUTCOME 2

Select, correctly assemble and conduct pre-operational checks of gas tungsten arc welding equipment.

SPECIFIC OUTCOME 3

Prepare pipes prior to welding.

SPECIFIC OUTCOME 4

Weld pipes.

SPECIFIC OUTCOME 5

Inspect welded pipe.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Weld steel workpieces, using the plasma arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243051	Weld steel workpieces, using the plasma arc welding process in all positions		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and explain the plasma arc welding equipment.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre-operational checks of plasma arc welding equipment.

SPECIFIC OUTCOME 3

Prepare workpiece prior to welding.

SPECIFIC OUTCOME 4

Weld workpiece.

SPECIFIC OUTCOME 5

Inspect welded plate for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

4

Weld carbon steel pipe, using the gas tungsten arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243054	Weld carbon steel pipe, using the gas tungsten arc welding process in all positions		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and assemble gas tungsten arc welding equipment.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre-operational checks of gas tungsten arc welding equipment.

SPECIFIC OUTCOME 3

Prepare pipes prior to welding.

SPECIFIC OUTCOME 4

Weld pipes.

SPECIFIC OUTCOME 5

Inspect welded pipe for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

5

Weld workpieces within the stainless steel material group, using the gas tungsten arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243057	Weld workpieces within the stainless steel material group, using the gas tungsten arc welding process in all positions		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and assemble gas tungsten arc welding equipment.

SPECIFIC OUTCOME 2

Select, correctly assemble and conduct pre-operational checks of gas tungsten arc welding equipment.

SPECIFIC OUTCOME 3

Prepare workpieces prior to welding.

SPECIFIC OUTCOME 4

Weld the workpiece.

SPECIFIC OUTCOME 5

Inspect welded workpiece.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

6

Weld pipe within the stainless steel material group, using the gas metal arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243060	Weld pipe within the stainless steel material group, using the gas metal arc welding process in all positions		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and assemble gas metal arc welding equipment.

SPECIFIC OUTCOME 2

Select, correctly assemble and conduct pre-operational checks of gas metal arc welding equipment.

SPECIFIC OUTCOME 3

Prepare pipes prior to welding.

SPECIFIC OUTCOME 4

Weld pipes.

SPECIFIC OUTCOME 5

Inspect welded pipe.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

7

Weld carbon steel pipe, using the shielded metal arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243062	Weld carbon steel pipe, using the shielded metal arc welding process in all positions		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 4	Regular

SPECIFIC OUTCOME 1

Describe the shielded metal arc welding process and related equipment.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre-operational checks of shielded metal arc welding equipment.

SPECIFIC OUTCOME 3

Prepare pipes prior to welding.

SPECIFIC OUTCOME 4

Weld pipes.

SPECIFIC OUTCOME 5

Inspect welded pipe for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

8

Weld carbon steel pipe using the gas metal arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243065	Weld carbon steel pipe using the gas metal arc welding process in all positions		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and explain the gas metal arc welding process.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre-operational checks of gas metal arc welding equipment.

SPECIFIC OUTCOME 3

Prepare pipes prior to welding.

SPECIFIC OUTCOME 4

Weld pipes.

SPECIFIC OUTCOME 5

Inspect welded pipe for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

9

Programme, use and maintain an industrial robot system

SAQA US ID	UNIT STANDARD TITLE		
243070	Programme, use and maintain an industrial robot system		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of and an ability to apply the relevant robot safety.

SPECIFIC OUTCOME 2

Identify and explain the function of the various parts of an industrial robot.

SPECIFIC OUTCOME 3

Demonstrate an understanding of and an ability to use the handheld teach pendant.

SPECIFIC OUTCOME 4

Demonstrate an understanding of and an ability to maintain the manipulator.

SPECIFIC OUTCOME 5

Remove and install in-line wrist, toothed belts and motor units.

SPECIFIC OUTCOME 6

Programme the industrial robot using simple motion programmes.

SPECIFIC OUTCOME 7

Run and test industrial robot motion programmes.

SPECIFIC OUTCOME 8

Record information on work done.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

10

Weld workpieces within the aluminium material group, using the gas tungsten arc welding process in all positions.

SAQA US ID	UNIT STANDARD TITLE		
243079	Weld workpieces within the aluminium material group, using the gas tungsten arc welding process in all positions.		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and assemble gas tungsten arc welding equipment.

SPECIFIC OUTCOME 2

Select, correctly assemble and conduct pre-operational checks of gas tungsten arc welding equipment.

SPECIFIC OUTCOME 3

Prepare work piece prior to welding.

SPECIFIC OUTCOME 4

Weld workpiece.

SPECIFIC OUTCOME 5

Inspect welded workpiece.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

11

Weld pipe within the aluminium material group, using the gas metal arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243083	Weld pipe within the aluminium material group, using the gas metal arc welding process in all positions		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and assemble gas metal arc welding equipment

SPECIFIC OUTCOME 2

Select, correctly assemble and conduct pre-operational checks of gas metal arc welding equipment.

SPECIFIC OUTCOME 3

Prepare pipes prior to welding.

SPECIFIC OUTCOME 4

Weld pipes.

SPECIFIC OUTCOME 5

Inspect welded pipe.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

12

Weld carbon steel workpieces, using the shielded metal arc and gas tungsten arc combination welding processes, in all positions

SAQA US ID	UNIT STANDARD TITLE		
243085	Weld carbon steel workpieces, using the shielded metal arc and gas tungsten arc combination welding processes, in all positions		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Welding		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Engineering and Related Design
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and explain the shielded metal arc and gas tungsten arc welding process.

SPECIFIC OUTCOME 2

Select, assemble and conduct pre-operational checks of shielded metal arc and gas tungsten arc weld.

SPECIFIC OUTCOME 3

Prepare workpiece prior to welding.

SPECIFIC OUTCOME 4

Weld workpiece.

SPECIFIC OUTCOME 5

Inspect welded workpiece for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

13

Weld pipe within the aluminium material group, using the gas tungsten arc welding process in all positions

SAQA US ID	UNIT STANDARD TITLE		
243087	Weld pipe within the aluminium material group, using the gas tungsten arc welding process in all positions		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	20	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and assemble gas tungsten arc welding equipment.

SPECIFIC OUTCOME 2

Select, correctly assemble and conduct pre-operational checks of gas tungsten arc welding equipment.

SPECIFIC OUTCOME 3

Prepare pipes prior to welding.

SPECIFIC OUTCOME 4

Weld pipes.

SPECIFIC OUTCOME 5

Inspect welded pipe.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

14

Weld carbon steel pipe, with combination welding processes using the gas tungsten arc welding and gas metal arc welding, in all positions

SAQA US ID	UNIT STANDARD TITLE		
243088	Weld carbon steel pipe, with combination welding processes using the gas tungsten arc welding and gas metal arc welding, in all positions		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Welding	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 4	Regular

SPECIFIC OUTCOME 1

Describe and explain the gas tungsten arc and gas metal arc welding equipment.

SPECIFIC OUTCOME 2

Select, assemble & conduct pre-operational checks of gas tungsten and gas metal arc welding equipment.

SPECIFIC OUTCOME 3

Prepare pipes prior to welding.

SPECIFIC OUTCOME 4

Weld pipes.

SPECIFIC OUTCOME 5

Inspect welded pipe for defects.

SPECIFIC OUTCOME 6

Care for and store welding consumables and equipment.

No. 1161

24 November 2006

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

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

Chemical Industries

registered by Organising Field 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.saqqa.org.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the qualification and unit standards should reach SAQA at the address *below and no later than 23 December 2006*. All correspondence should be marked **Standards Setting – SGB for Chemical Industries** and addressed to

The Director: Standards Setting and Development
SAQA

Attention: Mr. D. Mphuthing

Postnet Suite 248

Private Bag X06

Waterkloof

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DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

National Certificate: Manufacturing of Surface Coatings

SAQA QUAL ID	QUALIFICATION TITLE		
57879	National Certificate: Manufacturing of Surface Coatings		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
Chemical Industries SGB	6		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD	
National Certificate	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	122	Level 3	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

A learner acquiring this qualification will be able to manufacture surface coatings and allied products that conform to required specifications in a safe and cost-effective manner.

The learner will also be able to coordinate team performance and perform trouble-shooting and maintenance functions associated with the manufacturing of the products and the equipment used.

In the context of this qualification surface coatings and allied products include paints, varnishes, inks, surface preparation products, pigments, speciality chemicals, and related products.

The qualification also provides the basis for further learning in quality assurance, production, supervision, technical support and productivity. Following declaration of competence against this qualification, learners will be in a position to participate directly in controlling and troubleshooting the production processes.

Rationale:

This qualification will enable the learner to develop through learning to apply physical science, process specific technology and related skills. It will also create an awareness of the environmental impact of manufacturing.

Research conducted across the Surface Coatings Sector indicates that there is no such qualification in South Africa. This qualification will fill a priority identified by the Chemical Industries SETA Sector Skills Plan.

This qualification provides the flexibility to articulate to other manufacturing activities within the Chemical industries, for example, the household and personal care, and Speciality Chemicals manufacturing and packaging environments. It can also be useful in other manufacturing and packaging environments, for example, in the Food and Beverage Sector.

The qualification provides learners with some grounding for starting up a small manufacturing business.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

It is assumed that learners are already competent in Communication and Mathematical Literacy at NQF Level 2.

Recognition of prior learning

This qualification recognizes the knowledge, experience and expertise of operators who do not have formal qualifications aligned to this qualification. RPL assessment may be conducted for parts or all of this qualification, and shall be based on ETQA's RPL policy and guidelines.

Access to the qualification

> Access to this qualification is open. However, it is preferable that learners have completed the National Certificate in Chemical Manufacturing Operations at NQF Level 2.

QUALIFICATION RULES

- > All the fundamental unit standards totalling 38 credits are compulsory.
- > All the core unit standards totalling 70 credits are compulsory.
- > A further 14 credits must be selected from the elective components of the qualification, so that the learner completes a minimum of 122 credits.

EXIT LEVEL OUTCOMES

1. Produce surface coatings and/or related products to specification.
2. Maintain health, safety and quality assurance practices in a manufacturing environment.
3. Apply basic economic and business principles.
4. Communicate orally and in writing in order to co-ordinate the activities of people and enhance their performance.

ASSOCIATED ASSESSMENT CRITERIA

1.
 - > The chemistry and process technology of surface coatings is described and explained with examples.
 - > Surface coatings and/or related products are manufactured to specification, and within the timeframes recognized as good practice.
 - > Problems encountered during the manufacturing process are identified and resolved within the scope of the job, using process chemistry and related technology.
 - > Maintenance is carried out on the machinery and equipment in accordance with set specifications.
2.
 - > The importance and interactive role of safety with regard to employer, employee and applicable legislation is explained and applied in accordance with set standards.
 - > The quality assurance system and quality objectives, standards and elements are explained and applied in accordance with set standards.
3.
 - > Allocated resources are used in a cost-effective way with a view to improving productivity and profitability.
 - > Personal actions are justified in terms of their impact on profit and loss, and cash flow.
 - > Supply and demand of products manufactured are discussed with regards to their manufacture, distribution and market/customer needs.
4.
 - > Team performance is enhanced with the use of plans and methodologies, to meet company standards.
 - > Differences of opinion are mediated in a manner that reduces conflict, and focuses on the task at hand.
 - > Ongoing oral communication is clear and suitable for different workplace audiences.
 - > Written communication is clear and to the point, and meets organizational requirements.

Integrated Assessment

For formative and summative assessment, the Assessor should look for opportunities to maximise integration of the various outcomes in the qualification. The final assessment must be based on a summative assessment guide. Such a guide needs to indicate how the assessor will assess different aspects of the performance and will include:

- > Observing (and listening to) the learner at work.
- > Asking questions and initiating short discussions to test understanding.
- > Looking at records, reports, logbooks, handover books, and other relevant workplace documentation.
- > Using simulation, where this is appropriate.
- > Speaking to and obtaining written evidence of competence from supervisors and managers.

The learner may choose in which language s/he wants to be assessed provided that it falls within the scope

of the assessor. This should be established as part of a process of preparing the learner for assessment and familiarising the learner with the approach being taken.

The assessment process should cover the explicit tasks required for the qualification as well as the understanding of the concepts and principles that underpin the activities needed in order to manufacture surface coatings products, solve operating problems, understand safety legislation and quality principles, apply basic business and economic principles, and lead and co-ordinate people and activities.

Assessors need to ensure that the 12 principles of assessment have been met, and this includes the evaluation of evidence to verify that the learner has been performing consistently over a period of time.

INTERNATIONAL COMPARABILITY

Benchmarking took into account the following:

- > Countries who have a Qualifications Framework, such as the United Kingdom (NVQ and SVQ), Australia and New Zealand.
- > Countries who are reputed to be leaders in manufacturing, such the United States of America and Canada.
- > SADEC countries, which are in geographical proximity to South Africa.
- > Countries who have shown significant progress in their manufacturing practices in the last five years, such as India, China and Malaysia.

In each of the countries considered, special attention was paid to Best Practices, and cognizance was taken of content of qualifications, entry requirements and vertical articulation options.

The United Kingdom

According to the Department of Trade and Industry, chemical manufacturing has one of the highest growth rates in comparison with other manufacturing industries. As in South Africa, the United Kingdom says that 88% of employers report skills gaps because of new working practices, use of new technology, stricter regulation, and the need for increased productivity.

UK Qualifications that can be compared to the proposed National Certificate in Manufacturing of Surface Coatings, in terms of entry level and vertical articulation, are:

- > Certificate in Coatings Technology (TASC Sector Body) Qualification No. 100/2058/5
- > Producing Surface Coatings, NVQ Levels 2 and 3: Scheme No. 0776, where Level 2 is targeted at Operators and concentrates on technology and operations, and Level 3 at senior operator/team leaders, with a strong leadership component.
- > Process Operations (Chemical) Levels 1 (ID Q1016461) Level 2 (ID Q1019729) and Level 3 (ID Q1016463).
- > Performing manufacturing Operations Level 1 (ID Q1025204) and Level 2 (ID 1025205).
- > Process manufacture (Chemicals) Level 2 (Q1026616) and Level 3 (Q1026617) - as above.

Each of the abovementioned qualifications focuses on process technology, and the theory and practice of manufacturing. In the case of the Surface Coatings-specific qualifications, learners are able to select modules related to the technology used in their own work places. There is also emphasis on working in teams, and on using hand tools to perform basic maintenance and changeovers on production machinery.

New Zealand

The New Zealand Qualifications Framework (NZQF) has registered the National Certificate in Materials Processing, Level 3 - Reference No. 1074. This qualification has a strand in paints. It is similar to the proposed qualification in terms of level, entry requirements, and competencies. The strand in paints has 14 compulsory credits and 33 elective credits, out of a total of 58 credits.

Australia

Surface Coatings Association Australia Inc. does not advertise courses, although seminars are held regularly and discuss new technological developments in the sub-sector. Several TAFE Colleges offer a Diploma at the equivalent of NQF Level 5.

The United States of America

The Manufacturing Skills Standards Council (MSSC) has researched and presented a set of manufacturing

skills with descriptors and performance indicators. These skills may be selected according to needs, and appear to reflect best practice in manufacturing, but do not specify Surface Coatings. The proposed qualification may be favourably compared to the list of manufacturing skills listed by the MSSC in terms of generic chemical technology, but not specifically in surface coatings. Other courses found advertised on United States Professional Associations are limited to seminars or post graduate studies, and do not describe outcomes.

Canada

Seminars and short courses are offered through the various Surface Coatings and Allied Professional Institutes, and post-graduate studies were found. However, there was no equivalent of the proposed qualification on any Canadian website.

Europe

As Europe is known for its Best Practices, a search across a number of countries revealed professional Surface Coatings Associations and Institutes in Denmark, Belgium, France, Hungary, Poland and Greece, amongst others. Once again, short courses and seminars lead the way at Professional Development level, and Surface Coatings specific qualifications appear to be at Post Graduate level, for example: (Post Graduate) Diploma in Industrial Chemistry - Paint Technology/Surface Finishing Specialization: Greece.

Countries of the Southern African Development Community

A search for qualifications in the SADC countries has revealed little useful information. Most of the certifications appear to be based on short courses and occupational competence is not described, or linked to international professional Associations.

India and other Far East Countries

India is a prolific advertiser of Surface Coatings and related products. The country appears to use the City and Guilds qualifications at Operator Level (see United Kingdom above). There is one Post Graduate Diploma in Paint Coatings Technology from the Institute of Cheminformatics Studies, but only one out of six modules of the aforementioned diploma is dedicated to production and manufacturing technology.

Conclusions

An observation is that reviewed international qualifications are more generic in nature, and do not include components of problem-solving, basic maintenance and quality control. The UK qualifications concentrate on generic chemical process technology, with some insight in surface coatings, team work, and the operation of process equipment. New Zealand's qualification is similar to the SA Certificate because of its focus on surface coatings-specific processes as well as quality control and basic maintenance. All countries reviewed mentioned that professional skills needed to be developed against best practices.

ARTICULATION OPTIONS

Horizontal articulation is possible with the following Level 3 qualifications:

- > National Certificate: Manufacturing of Household and Personal Care Products (undevelopment).
- > National Certificate: Food and Beverage Packaging Operations Level 3 ID: 57694.

Vertical articulation is possible with the following Level 4 qualifications:

- > Further Education and Training Certificate: Manufacturing and Assembly Operations Supervision Level 4 ID: 48915.
- > Further Education and Training Certificate: Laboratory Practice Level 4 (undevelopment).
- > Further Education and Training Certificate: Surface Coatings Technology Level 4 (undevelopment).

MODERATION OPTIONS

> Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with an appropriate Education, Training, Quality Assurance (ETQA) Body or with an ETQA that has a 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 or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.

> Moderation of assessment will be overseen by the relevant ETQA or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.

> 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 as well as in the exit level outcomes described in the Qualification.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

For an applicant to register as an assessor, the applicant needs:

- > To be registered as an assessor with the relevant ETQA.
- > To have a similar qualification at one level higher than the level of the qualification and a minimum of 12 months relevant experience.

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	13221 Perform routine maintenance	Level 2	8	Registered
Core	14784 Apply sampling theory and practice in the chemical industry	Level 2	5	Registered
Core	243034 Demonstrate understanding of basic surface coatings technology and its applications	Level 2	10	Draft - Prep for P Comment
Core	8000 Applying basic business principles	Level 3	9	Reregistered
Core	14801 Solve operating problems using process chemistry and related technology	Level 3	10	Registered
Core	113852 Apply occupational health, safety and environmental principles	Level 3	10	Registered
Core	243011 Disperse powders in liquids in a batch process	Level 3	4	Draft - Prep for P Comment
Core	243013 Apply in process quality control in the manufacturing of surface coatings products	Level 3	8	Draft - Prep for P Comment
Core	242821 Identify responsibilities of a team leader in ensuring that organisational standards are met	Level 4	6	Recommended
Elective	116938 Use a Graphical User Interface (GUI)-based word processor to create and edit documents	Level 1	4	Registered
Elective	10252 Identify, inspect, use, maintain and care for engineering hand tools	Level 2	6	Reregistered
Elective	12202 Package products in a manual or semi-automated packaging operation	Level 2	6	Registered
Elective	12219 Select, use and care for engineering power tools	Level 2	6	Reregistered
Elective	14340 Maintain an existing information system in a business environment	Level 2	4	Reregistered
Elective	117924 Use a Graphical User Interface (GUI)-based word processor to format documents	Level 2	5	Registered
Elective	243021 Shift loads using lifting equipment	Level 2	4	Draft - Prep for P Comment
Elective	12319 Perform change overs in a production or packaging environment	Level 3	7	Reregistered
Elective	13234 Apply quality procedures	Level 3	8	Registered
Elective	116942 Use a GUI-based word processor to create merged documents	Level 3	3	Registered
Elective	119078 Use a GUI-based word processor to enhance a document through the use of tables and columns	Level 3	5	Registered
Elective	243012 Tint and match pigmented surface coatings	Level 3	10	Draft - Prep for P Comment
Elective	114600 Apply innovative thinking to the development of a small business	Level 4	4	Registered
Elective	117927 Use a Graphical User Interface (GUI)-based database application to solve a given problem	Level 4	6	Registered
Fundamental	7456 Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	Level 3	5	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

Fundamental	13912	Apply knowledge of self and team in order to develop a plan to enhance team performance	Level 3	5	Reregistered
Fundamental	14106	Demonstrate understanding of real and imaginary numbers and real number systems	Level 3	2	Reregistered
Fundamental	114952	Apply problem-solving techniques to make a decision or solve a problem in a real life context	Level 3	2	Registered
Fundamental	119457	Interpret and use information from texts	Level 3	5	Registered
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	Level 3	5	Registered
Fundamental	119467	Use language and communication in occupational learning programmes	Level 3	5	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Disperse powders in liquids in a batch process

SAQA US ID	UNIT STANDARD TITLE		
243011	Disperse powders in liquids in a batch process		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
Chemical Industries SGB	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	Level 3	Regular

SPECIFIC OUTCOME 1

Prepare to disperse.

SPECIFIC OUTCOME 2

Disperse powders.

SPECIFIC OUTCOME 3

Conduct dispersing support activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

Tint and match pigmented surface coatings

SAQA US ID	UNIT STANDARD TITLE		
243012	Tint and match pigmented surface coatings		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
Chemical Industries SGB	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Engineering and Related Design	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of basic colour science.

SPECIFIC OUTCOME 2

Prepare to tint.

SPECIFIC OUTCOME 3

Mix, tint, and match pigmented coatings.

SPECIFIC OUTCOME 4

Conduct tinting support activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Apply in process quality control in the manufacturing of surface coatings products

SAQA US ID	UNIT STANDARD TITLE		
243013	Apply in process quality control in the manufacturing of surface coatings products		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
Chemical Industries SGB		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 3	Regular

SPECIFIC OUTCOME 1

Prepare to conduct quality control testing.

SPECIFIC OUTCOME 2

Conduct quality control testing.

SPECIFIC OUTCOME 3

Conduct quality control support activities.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

4

Shift loads using lifting equipment

SAQA US ID	UNIT STANDARD TITLE		
243021	Shift loads using lifting equipment		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
Chemical Industries SGB	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	Level 2	Regular

SPECIFIC OUTCOME 1

Select lifting equipment.

SPECIFIC OUTCOME 2

Prepare the selected lifting equipment for lifting, securing, transferring and positioning of loads.

SPECIFIC OUTCOME 3

Operate the selected lifting equipment.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

5

Demonstrate understanding of basic surface coatings technology and its applications

SAQA US ID	UNIT STANDARD TITLE		
243034	Demonstrate understanding of basic surface coatings technology and its applications		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
Chemical Industries SGB	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 2	Regular

SPECIFIC OUTCOME 1

Demonstrate knowledge of the basic principles of surface coatings technology.

SPECIFIC OUTCOME 2

Demonstrate knowledge of the processes in the manufacturing of surface coatings.

SPECIFIC OUTCOME 3

Demonstrate knowledge of the GMP principles applied in the manufacture of surface coatings.

SPECIFIC OUTCOME 4

Demonstrate knowledge of different types of surface coatings systems and substrates which are normally painted.

SPECIFIC OUTCOME 5

Demonstrate knowledge of the procedures and processes used in the preparation and painting of substrates.

No. 1162

24 November 2006

**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

Banking and Micro Finance

registered by Organising Field 03, Business, Commerce and Management Studies, publishes the following qualification and unit standard 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. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the qualification should reach SAQA at the address *below and no later than 23 December 2006*. All correspondence should be marked **Standards Setting – SGB for Banking and Micro Finance** and addressed to

The Director: Standards Setting and Development
SAQA
Attention: Mr. D. Mphuthing
Postnet Suite 248
Private Bag X06
Waterkloof
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e-mail: dmphuthing@saga.co.za

DR. S. BHIKHA
DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

Further Education and Training Certificate: Credit Management

SAQA QUAL ID	QUALIFICATION TITLE		
57901	Further Education and Training Certificate: Credit Management		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Banking and Micro Finance	3		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD	
Further Ed and Training Cert	Business, Commerce and Management Studies	Finance, Economics and Accounting	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	164	Level 4	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

A learner assessed as competent against this qualification, will be able to assume responsibility for Credit Management at a junior management level in a variety of organisations in any business sector. The qualification will suit the following people:

- > Credit controllers.
- > Credit administrators.
- > Credit control supervisors.
- > Credit managers.

The qualification is a step in the learning pathway that underpins a career in the Credit Management arena and ameliorates the progression for a career path within an organization. It is intended to empower learners to acquire knowledge, skills, attitudes and values required to operate confidently in Credit Management positions not only in the South African context of the credit arena but also to respond to the challenges of the changing work environment globally.

The qualification provides a framework for the application of the guiding principles of Credit Management in the working environment of credit controllers, supervisors, managers and directors of Credit Management functions.

The range of typical learners that will enter this qualification will vary and includes:

- > School leavers wishing to enter the credit industry.
- > Learners from different specializations and of different levels of practical experience in Credit Management, wishing to consolidate their education.

Rationale:

In the social and economic development of South Africa the role of credit and Credit Management are becoming critical. With the introduction of the Credit Act there is an increased awareness amongst consumers regarding their rights and obligations. There is requirement to equip staff operating in the various aspects of Credit Management with the knowledge and skills to carry out their responsibilities in terms of the act. Additionally, the Credit Management staff requires the values and attitudes to perform their duty to manage credit extension in line with the objectives set out in the act. The Credit Management sector is highly regulated and the consequences of non-compliance for the industry are substantial in terms of both financial and reputation risk.

The role of the credit manager is becoming crucial. Financial and trading firms need to have resources of

qualified people (credit controllers, supervisors, managers and directors), skilled in the planning, directing, organizing and control of the sector and able to set and maintain good standards in the development of credit management.

The Institute for Credit Management identified the need for the comprehensive education, training and development of future professionals in Credit Management and defined the qualification in Credit Management as suitable solution.

This qualification forms a generic basis for further learning. Learners will be provided with the necessary skills to choose different options as career paths, such as specialising at higher levels in Trade, Retail, Third party collection, Banking and Export.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

It is assumed that a learner entering a programme leading to this qualification has achieved:

- > Communication at NQF Level 3.
- > Mathematical Literacy at NQF Level 3.
- > Accounting at NQF Level 3.

Recognition of Prior Learning:

The qualification can be achieved wholly or in part through recognition of prior learning in terms of the defined Exit Level Outcomes and/or individual Unit Standards.

Evidence can be presented in variety of ways, including international and/or previous local qualifications, products, reports, testimonials, work records, portfolios and performance records.

All this evidence will be judged in accordance with the general principles of assessment and the requirements for integrated assessment.

Access to the Qualification:

Access to the qualification is open keeping in mind the "learning assumed to be in place".

QUALIFICATION RULES

The qualification consists of 164 credits allocated to Fundamental, Core and Elective Unit Standards.

Fundamental Unit Standards:

The Fundamental Unit Standards add up to fifty six (56) credits. Sixteen (16) credits are in Mathematical Literacy; twenty (20) in Communication in a First South African Language and twenty (20) in Communication in a Second South African Language. All Unit Standards in this section are compulsory.

Core Unit Standards:

The Core section consists of Unit Standards totalling (94) credits. All unit standards are compulsory.

Elective Unit Standards:

The Elective Unit Standards total twenty eight (28) credits. To complete the qualification the learner must choose Unit Standards to the value of at least fourteen (14) credits.

EXIT LEVEL OUTCOMES

1. Direct the day to day activities of a Credit Management department.
2. Create and maintain sound client and sales relations.
3. Research macro economic marketing trends and their micro economic implications.
4. Assess, manage and collect a debtor's book.
5. Conform to credit legislation.
6. Manage risk and profitability as it relates to Credit Management.

ASSOCIATED ASSESSMENT CRITERIA

1.
 - > Own staff is trained, coached and counselled as to achieving organisational objectives.
 - > The objectives of the credit department are reported to senior management and staff.
 - > Credit sales transactions are administered according to company requirements.
2.
 - > Communicate verbally and in writing in a wide variety of contexts, in accordance with legislation and standard procedures.
 - > Customer service is provided in line with organisational customer service standards.
 - > Communicate to senior management as well as internal and external clients.
 - > A Credit Management function is provided to internal customers.
 - > Ethical conduct requirements are understood and adhered to in own work environment.
3.
 - > Credit worthiness of debtors is researched and presented to managers.
 - > The principles upon which financial packages have been designed are understood and explained with examples.
 - > Relevant information systems in the business environment are planned, monitored and controlled.
4.
 - > Basic financial statements are interpreted according to company requirements.
 - > Approved credit lines are established.
 - > Debt rescheduling problems are solved.
 - > Defaulting customer accounts are addressed and bad debts controlled according to organisational requirements.
5.
 - > Legal administrative processes are applied and managed at all times.
 - > A Credit Management function is performed within the stipulations of the relevant legislation.
6.
 - > The basics of security for finance are understood and applied consistently.
 - > Credit is monitored according to organisational requirements.
 - > The quality of debtor administration is evaluated with a view to improvement of existing system.
 - > Debt collecting accounts are assessed and allocated according to risk profile.
 - > Defaulting customer accounts are minimised through the application of recognised procedures.
 - > A claim in credit risk insurance is processed according to organisational procedures.

Integrated Assessment:

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

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 combination of practical, applied, foundational and reflective competencies.

Assessment should ensure that all specific outcomes 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

This qualification has been compared for best practice to equivalent qualifications in the United Kingdom and in Australia. These countries were chosen because their systems correspond to the banking focus, financial and credit traditions, principles and systems used in South Africa.

The Australian Credit Management qualifications are offered in the following programmes:

- > Certificate III in Financial Services (two day programme focusing on debt collection.).
- > Certificate IV in Financial Services covers Credit Applications and Minimization of Risk; Facilitating Legal Compliance; Manage and Recover Errant Debts; Developing the Workplace.
- > Diploma of Financial Services covers the following components:
 - > Manage Legal Compliance.
 - > Personal and Corporate Insolvency.
 - > Risk Analysis to Manage Credit Policy.
 - > Electives: Quality Customer Service; Managing People; Managing Change; Intro to Factoring and Discounting; Consumer Credit.
- > Graduate Diploma of Financial Services.

The United Kingdom ICM Level 3 Certificate in Credit Management is a specialized vocational qualification for credit controllers and supervisors. The following are the compulsory units:

- > Introductory Credit Management.
- > Accounting.
- > Business Law.
- > Business Environment.

The qualification above is pitched at the same level as the FETC: Credit Management.

The Certificate IV and aspects of the Diploma of Financial Services compares well with our South African qualification and it is considered to be a good benchmark.

Conclusion

The FETC: Credit Management compares favourably with the relevant equivalent qualifications overseas and will contribute to the promotion of high standards in the Credit Management field in South Africa.

ARTICULATION OPTIONS

Horizontal Articulation:

This qualification articulates horizontally with the following qualifications:

- > ID 49021: Further Education and Training Certificate: Debt Recovery, NQF Level 4.
- > ID 57712: Further Education and Training Certificate: Generic Management, NQF Level 4.
- > ID 23953: Further Education and Training Certificate: New Venture Creation, NQF Level 4.

Vertical Articulation:

The Further Education and Training Certificate: Credit Management articulates vertically with:

- > B Com.
- > B Tech: Credit Management.

MODERATION OPTIONS

This qualification will be assessed by an assessor and moderated by a moderator registered with the relevant ETQA. Training providers must be accredited by the relevant ETQA. Assessors should:

- > Have a minimum of two years practical experience as a credit manager.
- > Be registered as an assessor with the relevant ETQA.
- > Have a qualification in Financial Management at least at NQF level 5.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

N/A

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	13933 Plan, monitor and control an information system in a business environment	Level 3	3	Reregistered
Core	117422 Administer credit sales transactions	Level 3	3	Registered
Core	12739 Evaluate the quality of a business' debtor administration	Level 4	16	Reregistered
Core	12759 Provide after-sales customer service in an Asset Based Financing environment	Level 4	9	Reregistered
Core	13416 Demonstrate knowledge and understanding of the basics of security for finance	Level 4	6	Reregistered
Core	116598 Compile debtor correspondence in accordance with legislation and standard procedures	Level 4	6	Registered
Core	116599 Manage debtor portfolio	Level 4	6	Registered
Core	116608 Demonstrate knowledge and application of ethical conduct in a debt recovery work context	Level 4	6	Registered
Core	116610 Assess and allocate debt collecting accounts according to risk profile	Level 4	6	Registered
Core	117156 Interpret basic financial statements	Level 4	4	Registered
Core	118039 Promote and control credit	Level 4	5	Registered
Core	118042 Supervise credit procedures	Level 4	8	Registered
Core	118044 Address defaulting customer accounts and control bad debts	Level 4	10	Registered
Core	242670 Mitigate a potential loss and process a claim in trade credit insurance.	Level 4	6	Recommended
Elective	11253 Administer foreign exchange receipt and payment systems in an international trading company	Level 4	5	Reregistered
Elective	12743 Demonstrate knowledge and understanding of a factoring agreement	Level 4	4	Reregistered
Elective	13398 Demonstrate an understanding of the concepts and conventions of the foreign exchange market	Level 4	10	Reregistered
Elective	14990 Explain international credit risk insurance	Level 4	4	Registered
Elective	243122 Apply the legal requirements related to Credit Management	Level 4	5	Draft - Prep for P Comment
Fundamental	119457 Interpret and use information from texts	Level 3	5	Registered
Fundamental	119465 Write/present/sign texts for a range of communicative contexts	Level 3	5	Registered
Fundamental	119467 Use language and communication in occupational learning programmes	Level 3	5	Registered
Fundamental	119472 Accommodate audience and context needs in oral/signed communication	Level 3	5	Registered
Fundamental	7468 Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	Level 4	6	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	Reregistered
Fundamental	119459 Write/present/sign for a wide range of contexts	Level 4	5	Registered
Fundamental	119462 Engage in sustained oral/signed communication and evaluate spoken/signed texts	Level 4	5	Registered
Fundamental	119469 Read/view, analyse and respond to a variety of texts	Level 4	5	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Apply the legal requirements related to Credit Management

SAQA US ID	UNIT STANDARD TITLE		
243122	Apply the legal requirements related to Credit Management		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Banking and Micro Finance	3		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Business, Commerce and Management Studies	Finance, Economics and Accounting	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the National Credit Act.

SPECIFIC OUTCOME 2

Apply the legal principles pertaining to delinquent accounts.

SPECIFIC OUTCOME 3

Demonstrate an understanding of legal security.

SPECIFIC OUTCOME 4

Demonstrate an understanding of the Matrimonial Property Act as it pertains to Credit Management.

SPECIFIC OUTCOME 5

Demonstrate an understanding of the Insolvency Act.

SPECIFIC OUTCOME 6

Demonstrate an understanding of the Basic Law of Contracts.

SPECIFIC OUTCOME 7

Demonstrate an understanding of the Companies and Closed Corporations Act as it pertains to Credit Management.

No. 1163

24 November 2006

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

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

Manufacturing and Assembly

registered by Organising Field 06, Manufacturing, Engineering and Technology, publishes the following qualifications and unit standards for public comment.

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

Comment on the qualification and unit standards should reach SAQA at the address *below and no later than 23 December 2006*. All correspondence should be marked **Standards Setting – SGB for Chemical Industries** and addressed to

The Director: Standards Setting and Development
SAQA
Attention: Mr. D. Mphuthing
Postnet Suite 248
Private Bag X06
Waterkloof
0145
or faxed to 012 – 431-5144
e-mail: dmphuthing@saqa.org.za

DR. S BHIKHA
DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

National Certificate: CNC Production Machining

SAQA QUAL ID	QUALIFICATION TITLE		
57878	National Certificate: CNC Production Machining		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Manufacturing and Assembly Processes	6		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD	
National Certificate	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	131	Level 2	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of the qualification is to provide learners, education and training providers and employers with the standards and the range of learning required to work effectively in various industries making use of CNC production machining skills and to meet the challenges of such an environment.

This is the first qualification in a learning pathway for learners who want to follow a career in the field of CNC production machining, specifically in facilities which use machining and turning centres.

People working in the CNC production machining field require specialised technical skills and knowledge which combine some hand skills and an understanding of machining processes with more intensive production methods, greater control over the accuracy of dimensions and the maintenance of quality standards.

The primary skills that are recognised in this qualification are the ability to operate CNC equipment which manufactures precision machined components and the ability to monitor and record quality data and interpret statistical process control graphs. These capabilities require an understanding of basic machining theory; machinery functioning and maintenance; engineering materials and tools; and concepts of measurement, basic engineering drawings and basic statistics. Hand skills play a role in this qualification.

Qualified learners will also understand:

- > The basics of how a business functions.
- > Their role in the business, i.e. in production and related activities.
- > How they are affected by legislation, regulations, agreements and policies related to their particular work environment.

With this understanding learners will be able to participate effectively in workplace activities.

Rationale:

The rapid uptake of new technology in the form of computerised numeric control (CNC) systems in South Africa and the emergence of South Africa as a cost-effective supplier to international markets has created a demand for people with the skills to operate, set and programme such equipment. In order to meet this demand, the industry needs an engineering machining qualification which focuses on the understanding and use of CNC systems and statistical process control (SPC). This qualification represents a shift away from the traditional field of engineering machining, which is characterised by work-to-order, low volume manufacture of components using various machining methods. The emerging industry is characterised by greater precision, higher volumes, and higher standards of quality. This qualification spells out the skills needed to

operate successfully in this new field.

This is the first in a learning pathway of four qualifications in a learning pathway for CNC production machining. The pathway ends with the National Certificate in CNC Production Machining NQF Level 5. The qualifications provide a developmental pathway for the full range of activities required for production machining. The skills and knowledge required are described in a generic manner so that the changing needs of particular worksites can be met without requiring changes to the qualification or the unit standards.

Typical learners would be new entrants to the industry and existing employees with some experience in CNC production machining. Once qualified, they would typically monitor machining processes and product quality. They would perform tasks under supervision within the context of an overall team. This role represents a recognised position in the organisation.

This qualification represents the learning progression for an occupation which focuses on the machining of precision parts and components using computer numerical control (CNC). The stages of development related to CNC machining equipment are:

- > Operator.
- > Setter, including elements of programming.
- > Programmer, including trouble shooting and management of manufacturing processes.
- > Specialist, including process design, costing, trouble shooting and selection and implementation of new technology.

Machining includes processes such as cutting, boring, turning, milling and grinding. It may also include punching and nibbling.

These occupations have evolved from the traditional mechanical engineering trades such as machinist, turner and tool, jig and die maker. CNC has replaced manual operations and the focus has become the repeatable precision machining of components in a production environment, often as mass-production but not excluding small batches of product.

This qualification series recognises skills, knowledge and values relevant to a workplace and requires workplace experience. It is suitable for learners who:

- > Attend courses and then apply the knowledge gained to activities in the workplace (Portfolio to reflect formative assessment).
- > 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).
- > Participate in skills programmes and have the appropriate work experience.
- > Are part of a learnership programme which integrates structured learning and work experience.
- > Acquire their learning through any combination of the above.

The outcomes of this qualification combine skills and knowledge in the technical, inter-personal and business spheres, enabling the learner to perform the operational aspects of the work, function within a team context and contribute to value-adding processes within the organisation.

This qualification provides learners who have gained relevant experience in the workplace with an opportunity to obtain credits through an RPL process.

It also forms the basis for further learning in the field of CNC production machining where the learner will be able to specialise in setting and programming CNC machinery.

Learner achievements will contribute to the ability of South African companies to compete for work in the global economy, thus securing jobs and employment opportunities.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

The following competencies are assumed for a learner accessing this qualification:

- > Communication, NQF Level 1.
- > Mathematical Literacy, NQF Level 1.

Recognition of Prior Learning:

This qualification may be obtained through a 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. The guidelines for integrated assessment should be used to develop the RPL assessment process. As with integrated assessment, while this is primarily a workplace-based qualification, evidence from other areas of endeavour may be introduced if pertinent to any of the Exit Level Outcomes.

Access to the qualification:

There is open access to this qualification. A workplace is, however, a prerequisite to obtaining the relevant work experience and evidence required for the assessment of the Exit Level Outcomes.

QUALIFICATION RULES

- > The total number of credits for this qualification is 131.
- > The total number of credits in the Fundamental component is 36.
- > The total number of credits in the Core component is 83.
- > The minimum number of Elective credits is 12.

The elective credits should be chosen in accordance with the requirements of the selected context and the interests of the learner.

EXIT LEVEL OUTCOMES

1. Demonstrate an understanding of a CNC machining method and the ability to produce precision components.
 - > Range: Producing precision components includes deburring and any other finishing operation machining method: either turning, milling, boring, cutting or grinding.
2. Carry out routine machine operations and maintenance tasks.
3. Monitor and record production and quality data and respond to error conditions, malfunctions and faults.
 - > Range: Monitoring includes understanding the use and purpose of gauges and measuring instruments.
4. Communicate with peers and members of supervisory/management levels.

Critical Cross-Field Outcomes:

The critical cross-field outcomes are supported by the exit level outcomes as follows:

- > Identifying and solving problems in which responses display that responsible decisions using critical thinking have been made. Refer Exit Level Outcomes 1, 2, 3, 4.
- > Working effectively with others as a member of a team, group, organization and community. Refer to Exit Level Outcomes 1, 2, 3, 4.
- > Organising and managing oneself and one's activities responsibly and effectively. Refer to Exit Level Outcomes 1, 2, 3, 4.
- > Collecting, analyzing, organizing and critically evaluating information. Refer to Exit Level Outcomes 1, 2, 3, 4.
- > Communicating effectively using visual, mathematical and/or language skills. Refer to Exit Level Outcomes 1, 2, 3, 4.
- > Using science and technology effectively and critically, showing responsibility toward the environment and health of others. Refer to Exit Level Outcomes 1, 2, 3, 4.
- > Demonstrating an understanding of the world as a set of related systems by recognizing that problem contexts do not exist in isolation. Refer to Exit Level Outcomes 1, 2, 3, 4.

ASSOCIATED ASSESSMENT CRITERIA

1.
 - > Engineering drawings are read and interpreted to produce components.
 - > Materials used in the workplace are identified and described in accordance with specified requirements.
 - > Safe working practices are adhered to at all times.
 - > Output and quality requirements are met in accordance with set standards.
 - > The theoretical principles of machining, the various machining methods and the functioning of machinery are explained in accordance with specified requirements.
2.
 - > Process agents are applied consistently and systematically.

- > Pre-operational checks are performed in accordance with specified procedures.
- > Problems are identified and reported to appropriate personnel.
- > Key concepts of routine maintenance on machinery are explained in accordance with specified requirements.

3.

- > Data is recorded in accordance with the requirements of the appropriate statistical process control method.
- > Error conditions, faults and malfunctions are recognised and communicated effectively and timeously to the appropriate person.
- > Responses to error conditions are carried out to the nature of the problem.
- > Issues related to routine problems encountered while working are explained in accordance with requirements.

4.

- > Terminology related to engineering concepts, machinery, components and manufacturing processes is used in accordance with requirements.
- > Information is conveyed in a timely manner.
- > Relationships with peers and supervisory/management levels are established and functioning in accordance with organisational requirements.
- > Regular and ongoing communication is carried out in accordance with requirements.

Integrated Assessment:

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

- > Evaluating evidence in a portfolio of evidence, particularly projects which integrate various aspects of the qualification and which demonstrate the integration of all aspects of learning: fundamental and core; knowledge, skills and values; the development of the critical outcomes.
- > Observing and listening to the learner at work, both in primary activities as well as in other interactions, or in relevant simulations.
- > Asking questions and initiating short discussions to test understanding and to verify other evidence.
- > Looking at records and reports.
- > Formative and summative assessment of unit standards.

Assessment of competence for this qualification is based on the experience acquired by the learner in the workplace, within the particular CNC production machining context. The assessment process should cover the explicit tasks required for the qualification as well as the understanding of the underlying concepts and principles. The assessment process should also establish how the learning process has advanced the Critical Cross-field Outcomes.

The learner may choose in which language he/she 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 workplace-based qualification, evidence from other areas of endeavour may be presented if pertinent to any of the Exit Level Outcomes.

Assessors should also evaluate evidence that the learner is able to perform consistently over a period of time.

Learners can be assessed on:

- > A machining centre.
- > A CNC lathe or turning centre.
- > Any other equipment in which material is removed to form the part, eg cutting, boring, grinding.

INTERNATIONAL COMPARABILITY

Comparison was done with the following countries on the basis of best practice and how the practice is incorporated in the South African CNC Production Machining qualifications.

- > Australia
- > Canada
- > Botswana
- > Germany

- > India
- > Kenya
- > Nigeria
- > Sweden
- > UK
- > USA

The general finding is that CNC courses in the countries above are not designed for occupational development on a step-by-step basis. Generally the courses assume a general knowledge of machining or engineering and build specific CNC knowledge and skills onto this.

Sweden offers a 450-hour course in CNC. Other courses are designed to focus on specific pieces of equipment and trade stream such as a turning.

Training processes for the occupations are varied. The following encompass some of the options:

- > Skills and knowledge upgrading of qualified tradespersons in the mechanical engineering field.
- > Short courses and on-the-job training.
- > Apprenticeships.
- > Vocational education and training programmes followed by a work experience component.

Comparisons was therefore done by looking at occupational profiles in the following way:

- > Occupational role: Exit level outcomes
- > Occupational activities: Unit standards and specific outcomes

The occupations and the related career path described in this qualification are similar to descriptions found in various countries belonging to the Organisation for Economic Co-operation and Development (OECD), eg the United States of America.

There are a number of common characteristics found in most general education and training programmes in addition to CNC-specific training. These include:

- > Knowledge and ability to perform manual machining operations in at least one discipline.
- > Ability to read and interpret engineering drawings.
- > Knowledge of and ability to use and apply statistical process control techniques.
- > Principles and application of quality management systems, including customer focus.

In addition to these occupation-specific requirements, general requirements such as communication, mathematical literacy, safety, health and the environment, risk assessment, team skills, computer literacy and problem solving abilities are also required.

At operator level the occupational profile becomes less distinct. In most OECD countries the occupation is referred to as CNC machining operator but sometimes also as CNC machining setter. The range of activities can vary from the very simple to those performed by the programmer. The following summarises the most common activities for the CNC setter/operator:

A typical training or re-training programme for such operators is found in this Canadian example:

- > 3 weeks of McBride Training
 - > Personal Skills Development
 - > Computers
 - > Job Search Techniques
 - > Supported Job Search
- > 16 weeks of NAIT Technical Training
 - > Manual Machining Training (Equivalent to Level 1 Apprentice Training)
 - > CNC Machinist Operator Training
- > 3 weeks unpaid work experience at an employer site

The total programme consists of 22 weeks. The programme includes elements which allow the aspirant operator to develop a career in the CNC field.

Comparison with South African NQF level 2 and 3 qualifications

The overall level of responsibility in the above list corresponds with NQF level 3, based on the following activities:

- > Interpret drawings to accurately and efficiently complete parts as specified using shop mathematics.
- > Operate Computerized Numerical Control (CNC) as required.
- > Properly machine all types of material to achieve complete and accurate parts within established/expected timeframes.
- > Use various tools including, but not limited to, deburring tools, hand tools, power tools, overhead cranes (for handling materials and fixtures), various inspection tools as required to fully inspect part, and tool sharpening devices.
- > Detect and report faulty operations, defective material, and any unusual or unsafe conditions to supervisor.

This is reflected in the Exit Level Outcomes:

- > Set up and initiate CNC manufacturing processes.
- > Monitor and control the flow of work.
- > Monitor safety, health and environmental practices.
- > Monitor and maintain the quality of the product.

The type of CNC operator at NQF Level 2 found in South Africa is probably found in most developing countries. It is a low-skill occupation and consists mostly of monitoring the production process and alerting technical staff to problems. Parts finishing, cleaning and routine maintenance may also be required. This qualification reflects the following from the above list:

- > Deburr, clean, and inspection as required.
- > Properly machine all types of material to achieve complete and accurate parts within established/expected timeframes.
- > Use various tools including, but not limited to, deburring tools, hand tools, power tools, overhead cranes (for handling materials and fixtures), various inspection tools as required to fully inspect part, and tool sharpening devices.
- > Maintain work area as required, keeping it free from all scrap material. This includes separating all scrap and machining chips by various alloys as instructed.
- > Maintain work area in a clean and orderly condition.
- > Observe prescribed safety regulations.
- > Keep count and tallies as required.
- > Complete time and work reports.
- > Detect and report faulty operations, defective material, and any unusual or unsafe conditions to supervisor.
- > Maintain proper application of oils and lubricants, and make minor maintenance repairs as necessary.

Other activities and related knowledge is contained in the choice of unit standards and the specific outcomes in the unit standards. In addition to this, the South African qualifications include the tracking of part dimensions in statistical process control charts and recognising and responding to error conditions. As in many of the courses for aspirant operators, manual machining processes and hands-on experience of manual machining have been included as the basis for understanding the process and for recognising problems at this and later stages.

ARTICULATION OPTIONS

This qualification articulates vertically with the National Certificate in CNC Production Machining: NQF Level 3, SAQA ID: 57877.

This qualification articulates horizontally with other engineering qualifications at this level, eg National Certificate: Mechanical Engineering: Fitting and Machining, Level 2, SAQA ID: 23254 or National Certificate: Mechanical Engineering: Machining at NQF Level 2, SAQA ID: 23277.

MODERATION OPTIONS

> Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with an appropriate Education, Training, Quality Assurance (ETQA) Body or with an ETQA that has a 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 or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.

> Moderation of assessment will be overseen by the relevant ETQA or by an ETQA that has a

Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.

> 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 as well as in the exit level outcomes described in the Qualification.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

The following criteria should be applied by the relevant ETQA:

- > Appropriate qualification with a minimum of 2 years' experience of a relevant process of CNC production machining.
- > Registration as an assessor with a relevant ETQA.
- > A relevant qualification at one level higher than the level of the qualification.

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	9882 Read and interpret basic engineering drawings	Level 2	8	Reregistered
Core	12219 Select, use and care for engineering power tools	Level 2	6	Reregistered
Core	12476 Select, use and care for engineering measuring equipment	Level 2	4	Registered
Core	12477 Identify engineering materials, their characteristics and applications and common metal tests used in engineering	Level 2	4	Reregistered
Core	13204 Operate and monitor a milling machine to produce simple components	Level 2	12	Registered
Core	13205 Operate and monitor a lathe to produce simple components	Level 2	12	Registered
Core	13217 Collect and use information	Level 2	5	Registered
Core	13220 Keep the work area safe and productive	Level 2	8	Registered
Core	13221 Perform routine maintenance	Level 2	8	Registered
Core	13258 Participate in work group activities	Level 2	4	Registered
Core	119744 Select, use and care for engineering hand tools	Level 2	8	Registered
Core	243014 Operate and monitor computerised numerically controlled (CNC) machining equipment	Level 2	16	Draft - Prep for P Comment
Elective	12463 Understand and deal with HIV/AIDS	Level 2	3	Registered
Elective	12465 Develop a learning plan and a portfolio for assessment	Level 2	6	Registered
Elective	12466 Explain the individual's role within business	Level 2	4	Registered
Elective	13202 Apply study and learning techniques	Level 2	3	Registered
Elective	13214 Operate and monitor a drilling machine to produce simple components	Level 2	6	Registered
Elective	13222 Deal with safety, health and environmental emergencies in the workplace	Level 2	4	Reregistered
Elective	110001 Communicate effectively in teams	Level 2	5	Registered
Elective	110016 Hand over responsibility for a manufacturing operation	Level 2	5	Registered
Fundamental	7469 Use mathematics to investigate and monitor the financial aspects of personal and community life	Level 2	2	Reregistered
Fundamental	7480 Demonstrate understanding of rational and irrational numbers and number systems	Level 2	3	Reregistered
Fundamental	9007 Work with a range of patterns and functions and solve problems	Level 2	5	Reregistered
Fundamental	9008 Identify, describe, compare, classify, explore shape and motion in 2-and 3-dimensional shapes in different contexts	Level 2	3	Reregistered
Fundamental	9009 Apply basic knowledge of statistics and probability to influence the use of data and procedures in order to investigate life related problems	Level 2	3	Reregistered
Fundamental	119454 Maintain and adapt oral/signed communication	Level 2	5	Registered
Fundamental	119456 Write/present for a defined context	Level 2	5	Registered
Fundamental	119460 Use language and communication in occupational learning programmes	Level 2	5	Registered
Fundamental	119463 Access and use information from texts	Level 2	5	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

National Certificate: CNC Production Machining

SAQA QUAL ID	QUALIFICATION TITLE		
57877	National Certificate: CNC Production Machining		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Manufacturing and Assembly Processes	6		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD	
National Certificate	Manufacturing, Engineering and Technology	Fabrication and Extraction	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	128	Level 3	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of the qualification is to provide learners, education and training providers and employers with the standards with the standards and the range of learning required to set up, monitor and troubleshoot the manufacturing process in a CNC production machining environment.

This is the second qualification in a learning pathway for learners who want to follow a career in the field of CNC production machining, specifically in facilities, which use machining and turning centres.

People working in the CNC production machining field require specialised technical skills and knowledge which combine some hand skills and an understanding of machining processes with more intensive production methods, greater control over the accuracy of dimensions and the maintenance of quality standards.

The primary skills that are recognised in this qualification are the ability to set up and initiate CNC machining processes, monitor and control the flow of work, monitor safety, health and environmental practices and monitor and maintain the quality of the product. These capabilities require an understanding of machining theory; machinery functioning, materials, production processes, statistical process control and problem solving.

Qualified learners will also understand:

- > How to maintain business systems and business processes.
- > Their role in the business in production and related activities.
- > How they are affected by legislation, regulations, agreements and policies related to their particular work environment.

With this understanding learners will be able to participate effectively in workplace activities.

Rationale:

The rapid uptake of new technology in the form of computerised numeric control (CNC) systems in South Africa and the emergence of South Africa as a cost-effective supplier to international markets has created a demand for people with the skills to operate, set and programme CNC equipment. In order to meet this demand, the industry needs an engineering machining qualification which focuses on the understanding and use of CNC systems and statistical process control (SPC). This qualification represents a shift away from the traditional field of engineering machining, which is characterised by work-to-order, low volume manufacture of components using various machining methods. The emerging industry is characterised by greater precision, higher volumes, and higher standards of quality. This qualification spells out the skills needed to

operate successfully in this new field.

This is the second in a learning pathway of four qualifications in a learning pathway for CNC production machining. The pathway begins with the National Certificate in CNC Production Machining NQF Level 2 and ends with the National Certificate in CNC Production Machining NQF Level 5. The series provides a developmental pathway for the full range of activities required for production machining. The skills and knowledge required are described in a generic manner so that the changing needs of particular worksites can be met without requiring changes to the qualification or the unit standards.

Typical learners would have achieved the National Certificate in CNC Production Machining NQF Level 2 or be existing employees with some experience in CNC production machining. Once qualified, they would typically set up and operate CNC equipment. They would perform tasks semi-autonomously within the context of an overall team. This role represents a recognised position in the organisation.

This qualification series recognises skills, knowledge and values relevant to a workplace and requires workplace experience. It is suitable for learners who:

- > Attend courses and then apply the knowledge gained to activities in the workplace (Portfolio to reflect formative assessment).
- > 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).

The outcomes of this qualification combine skills and knowledge in the technical, inter-personal and business spheres, enabling the learner to perform the operational aspects of the work, function within a team context and contribute to value-adding processes within the organisation.

This qualification provides learners who have gained relevant experience in the workplace with an opportunity to obtain credits through an RPL process.

It also forms the basis for further learning in the field of production machining where the learner will be able to plan, set up and improve the manufacturing process, and respond to problems.

Learner achievements will contribute to the ability of South African companies to compete for work in the global economy, thus securing jobs and employment opportunities.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

The following competencies are assumed for a learner embarking on this qualification:

- > Communication and Mathematical Literacy at NQF Level 2.

In addition, learners are assumed to have the following skills at NQF Level 2 in the context of CNC production machining:

- > Demonstrate an understanding of a machining method and the ability to produce precision components.
- > Carry out routine machine operations and maintenance tasks.
- > Monitor and record production and quality data and recognise and respond to error conditions, malfunctions and faults.

Recognition of Prior Learning:

This qualification may be obtained through a 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. The guidelines for integrated assessment should be used to develop the RPL assessment process. As with integrated assessment, while this is primarily a workplace-based qualification, evidence from other areas of endeavour may be introduced if pertinent to any of the Exit Level Outcomes.

Access to the qualification:

There is open access to this qualification. A workplace is, however, a prerequisite to obtaining the relevant work experience and evidence required for the assessment of the Exit Level Outcomes.

QUALIFICATION RULES

- > The total number of credits for this qualification is 128

- > The total number of credits in the Fundamental component is 36
- > The total number of credits in the Core component is 80
- > The minimum number of Elective credits is 12

The elective credits should be chosen in accordance with the requirements of the selected context and the interests of the learner.

EXIT LEVEL OUTCOMES

1. Set up and initiate CNC manufacturing processes.
 - > Range: Enter tool off-sets unless tools have been preset; load or manually enter and edit machining instructions, includes selecting a programme and producing the final product.
2. Monitor and control the flow of work.
3. Monitor safety, health and environmental practices.
4. Monitor and maintain the quality of the product.

Critical Cross-field Outcomes:

The Critical Cross-Field Outcomes are supported by the Exit Level Outcomes as follows:

- > Identifying and solving problems in which responses display that responsible decisions using critical thinking have been made.

Refer to Exit Level Outcomes 1, 2, 3 and 4.

- > Working effectively with others as a member of a team, group, organization and community.

Refer to Exit Level Outcomes 1, 2, 3 and 4.

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

Refer to Exit Level Outcomes 1, 2, 3 and 4.

- > Collecting, analyzing, organizing and critically evaluating information.

Refer to Exit Level Outcomes 1, 2, 3 and 4.

- > Communicating effectively using visual, mathematical and/or language skills.

Refer to Exit Level Outcomes 1, 2, 3 and 4.

- > Using science and technology effectively and critically, showing responsibility toward the environment and health of others.

Refer to Exit Level Outcomes 1, 2, 3 and 4.

- > Demonstrating an understanding of the world as a set of related systems by recognizing that problem contexts do not exist in isolation.

Refer to Exit Level Outcomes 1, 2, 3 and 4.

ASSOCIATED ASSESSMENT CRITERIA

1.
 - > The product is manufactured in accordance with specifications.
 - > Range: This includes obtaining first-off approval; making adjustments and rectifying any non-conformance.
 - > The relationship between the part drawings and the manufactured product is shown and explained with examples.
 - > Set up processes are performed in accordance with requirements.
 - > the principles and issues underpinning manufacturing, machine set up and machine functioning are explained and discussed in accordance with requirements.
 - > Range: This includes knowledge of project management principles (production schedules, dates, times, planning, providing feedback on progress); and CNC programmes.

2.
 - > Correct materials are used in the CNC manufacturing operation.

- > All materials are identified and are related to specifications.
- > Manufacturing operations are carried out, monitored and controlled in accordance with procedures and standards.
 - > Range: This includes informing operators of manufacturing requirements, advancing operator skills, supervising operations and no stoppages as result of unavailability of materials.
 - > Materials are requisitioned and finished parts are dispatched.

3.

- > Health, safety and environmental principles and practices are explained and applied within a CNC production environment.
 - > Range: This includes compiling a log of such issues over a period of time; unsafe working practices; use of PPE; disposal of waste; waste reduction techniques; lean manufacturing principles.
 - > Safety devices and mechanisms are checked and maintained in accordance with specifications.

4.

- > Quality conformance is achieved in accordance with set standards.
 - > Range: Includes use of correct materials.
 - > Issues and problems are raised and discussed with relevant personnel.
 - > Types of manufacturing problems are discussed and explained with examples.
 - > Monitoring measures are explained and applied within a CNC manufacturing process.

Integrated Assessment:

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

- > Evaluating evidence in a portfolio of evidence, particularly projects which integrate various aspects of the qualification and which demonstrate the integration of all aspects of learning: fundamental and core; knowledge, skills and values; the development of the critical outcomes.
- > Observing and listening to the learner at work, both in primary activities as well as in other interactions, or in relevant simulations.
- > Asking questions and initiating short discussions to test understanding and to verify other evidence.
- > Looking at records and reports.
- > Formative and summative assessment of unit standards.

Assessment of competence for this qualification is based on experience acquired by the learner in the workplace, within the particular CNC production-machining context. The assessment process should cover the explicit tasks required for the qualification as well as the understanding of the underlying concepts and principles. The assessment process should also establish how the learning process has advanced the Critical Cross-field Outcomes.

The learner may choose in which language he/she 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 workplace-based qualification, evidence from other areas of endeavour may be presented if pertinent to any of the Exit Level Outcomes.

Assessors should also evaluate evidence that the learner is able to perform consistently over a period of time.

INTERNATIONAL COMPARABILITY

Comparison was done with the following countries on the basis of best practice and how the practice is incorporated in the South African CNC Production Machining qualifications.

- > Australia
- > Canada
- > Botswana
- > Germany
- > India
- > Kenya
- > Nigeria
- > Sweden
- > UK
- > USA

The general finding is that CNC courses in the countries above are not designed for occupational development on a step-by-step basis. Generally the courses assume a general knowledge of machining or engineering and build specific CNC knowledge and skills onto this.

Sweden offers a 450-hour course in CNC. Other courses are designed to focus on specific pieces of equipment and trade stream such as a turning.

Training processes for the occupations are varied. The following encompass some of the options:

- > Skills and knowledge upgrading of qualified tradespersons in the mechanical engineering field.
- > Short courses and on-the-job training.
- > Apprenticeships.
- > Vocational education and training programmes followed by a work experience component.

Comparisons was therefore done by looking at occupational profiles in the following way:

- > Occupational role; exit level outcomes.
- > Occupational activities; unit standards and specific outcomes.

The occupations and the related career path described in this qualification are similar to descriptions found in various countries belonging to the Organisation for Economic Co-operation and Development (OECD), eg the United States of America:

There are a number of common characteristics found in most general education and training programmes in addition to CNC-specific training. These include:

- > Knowledge and ability to perform manual machining operations in at least one discipline.
- > Ability to read and interpret engineering drawings.
- > Knowledge of and ability to use and apply statistical process control techniques.
- > Principles and application of quality management systems, including customer focus.

In addition to these occupation-specific requirements, general requirements such as communication, mathematical literacy, safety, health and the environment, risk assessment, team skills, computer literacy and problem solving abilities are also required.

At operator level the occupational profile becomes less distinct. In most OECD countries the occupation is referred to as CNC machining operator but sometimes also as CNC machining setter. The range of activities can vary from the very simple to those performed by the programmer. The following summarises the most common activities for the CNC setter/operator:

A typical training or re-training programme for such operators is found in this Canadian example:

3 weeks of McBride Training:

- > Personal Skills Development.
- > Computers.
- > Job Search Techniques.
- > Supported Job Search.

16 weeks of NAIT Technical Training:

- > Manual Machining Training (Equivalent to Level 1 Apprentice Training)
- > CNC Machinist Operator Training

3 weeks unpaid work experience at an employer site

The total programme consists of 22 weeks. The programme includes elements, which allow the aspirant operator to develop a career in the CNC field.

Comparison with South African NQF level 2 and 3 qualifications

The overall level of responsibility in the above list corresponds with NQF level 3, based on the following activities:

- > Interpret drawings to accurately and efficiently complete parts as specified using shop mathematics.

- > Operate Computerized Numerical Control (CNC) as required.
- > Properly machine all types of material to achieve complete and accurate parts within established/expected timeframes.
- > Use various tools including, but not limited to, deburring tools, hand tools, power tools, overhead cranes (for handling materials and fixtures), various inspection tools as required to fully inspect part, and tool sharpening devices.
- > Detect and report faulty operations, defective material, and any unusual or unsafe conditions to supervisor.

This is reflected in the Exit Level Outcomes:

- > Set up and initiate CNC manufacturing processes.
- > Monitor and control the flow of work.
- > Monitor safety, health and environmental practices.
- > Monitor and maintain the quality of the product.

The type of CNC operator at NQF Level 2 found in South Africa is probably found in most developing countries. It is a low-skill occupation and consists mostly of monitoring the production process and alerting technical staff to problems. Parts finishing, cleaning and routine maintenance may also be required. This qualification reflects the following from the above list:

- > Deburr, clean, and inspection as required.
- > Properly machine all types of material to achieve complete and accurate parts within established/expected timeframes.
- > Use various tools including, but not limited to, deburring tools, hand tools, power tools, overhead cranes (for handling materials and fixtures), various inspection tools as required to fully inspect part, and tool sharpening devices.
- > Maintain work area as required, keeping it free from all scrap material. This includes separating all scrap and machining chips by various alloys as instructed.
- > Maintain work area in a clean and orderly condition.
- > Observe prescribed safety regulations.
- > Keep count and tallies as required.
- > Complete time and work reports.
- > Detect and report faulty operations, defective material, and any unusual or unsafe conditions to supervisor.
- > Maintain proper application of oils and lubricants, and make minor maintenance repairs as necessary.

Other activities and related knowledge is contained in the choice of unit standards and the specific outcomes in the unit standards. In addition to this, the South African qualifications include the tracking of part dimensions in statistical process control charts and recognising and responding to error conditions. As in many of the courses for aspirant operators, manual machining processes and hands-on experience of manual machining have been included as the basis for understanding the process and for recognising problems at this and later stages.

ARTICULATION OPTIONS

This qualification articulates vertically with the Further Education and Training Certificate: CNC Production Machining, 57885.

This qualification articulates horizontally with other engineering qualifications at this level, National Certificate: Mechanical Engineering: Fitting and Machining, Level 3, 23255; National Certificate: Mechanical Engineering: Machining, Level 3, 23278; National Certificate: Mechanical Engineering: Tooling Manufacture, Level 4, 23281.

MODERATION OPTIONS

- > Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with an appropriate Education and Training Quality Assurance Body (ETQA) or with an ETQA that has a 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 or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.
- > Moderation of assessment will be overseen by the relevant ETQA or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.

> 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 as well as in the exit level outcomes described in the Qualification.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

The following criteria should be applied by the relevant ETQA:

- > Appropriate qualification at one level higher than the level of the qualification with a minimum of 2 years' experience of a relevant process of CNC production machining.
- > Registration as an assessor with a relevant ETQA.

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	115091 Monitor compliance to safety, health and environmental requirements in a workplace	Level 2	2	Registered
Core	12456 Explain and use organisational procedures	Level 3	6	Registered
Core	12488 Complete feasibility and commissioning reports	Level 3	3	Registered
Core	13234 Apply quality procedures	Level 3	8	Registered
Core	14688 Develop work instructions for thermoplastic fabrication using drawings	Level 3	10	Registered
Core	114952 Apply problem-solving techniques to make a decision or solve a problem in a real life context	Level 3	2	Registered
Core	114978 Use a word processing package to produce business documents	Level 3	3	Registered
Core	116218 Explain the planning and scheduling of tasks in a production environment	Level 3	3	Registered
Core	117877 Perform one-to-one training on the job	Level 3	4	Registered
Core	119169 Work with and look after materials in the plastics manufacturing production process	Level 3	12	Registered
Core	120383 Provide assistance in implementing and assuring project work meets quality requirements	Level 3	6	Registered
Core	243024 Set up and start CNC machining processes	Level 3	14	Draft - Prep for P Comment
Core	243025 Monitor machining process, interpret statistical process control charts, and rectify production problems	Level 3	7	Draft - Prep for P Comment
Elective	12455 Perform the role of a safety, health and environmental protection representative	Level 3	4	Registered
Elective	13915 Demonstrate knowledge and understanding of HIV/AIDS in a workplace, and its effects on a business sub-sector, own organisation and a specific workplace	Level 3	4	Reregistered
Elective	13916 Identify and keep the records that a team manager is responsible for keeping	Level 3	4	Reregistered
Elective	113899 Demonstrate an understanding of basic programmable logic controllers	Level 3	6	Registered
Fundamental	7456 Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	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
Fundamental	119457 Interpret and use information from texts	Level 3	5	Registered
Fundamental	119465 Write/present/sign texts for a range of communicative contexts	Level 3	5	Registered
Fundamental	119467 Use language and communication in occupational learning programmes	Level 3	5	Registered
Fundamental	119472 Accommodate audience and context needs in oral/signed communication	Level 3	5	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

Further Education and Training Certificate: CNC Production Machining

SAQA QUAL ID	QUALIFICATION TITLE		
57885	Further Education and Training Certificate: CNC Production Machining		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Manufacturing and Assembly Processes	6		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD	
Further Ed and Training Cert	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUALIFICATION CLASS
Undefined	162	Level 4	Regular-Unit Stds Based

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of the qualification is to provide learners, education and training providers and employers with the standards and the range of learning required to plan, set up and improve the manufacturing process, and respond to problems in a CNC production machining environment.

This is the third qualification in a series for learners who want to follow a career in the field of CNC production machining, specifically in facilities which use machining and turning centres.

People working in the CNC production machining field require specialised technical skills and knowledge which combine some hand skills and an understanding of machining processes with more intensive production methods, greater control over the accuracy of dimensions and the maintenance of quality standards.

The primary skills that are recognised in this qualification are the ability to interpret drawings and develop CNC machining process plans, programmes and work instructions for new components, set up and qualify all the processes and identify and rectify manufacturing problems. These capabilities require an understanding of computer numerical controlled programmes and machines, issues related to quality productivity safety, health and the environment.

Qualified learners will also understand:

- > How to work with business systems and apply and use procedures.
- > Their role in the business, i.e. in production and related activities.
- > How they are affected by legislation, regulations, agreements and policies related to their particular work environment.

With this understanding learners will be able to participate effectively in workplace activities.

Rationale:

The rapid uptake of new technology in the form of computerised numeric control (CNC) systems in South Africa and the emergence of South Africa as a cost-effective supplier to international markets has created a demand for people with the skills to operate, set and programme CNC equipment. In order to meet this demand, the industry needs an engineering machining qualification which focuses on the understanding and use of CNC systems and statistical process control (SPC). This qualification represents a shift away from the traditional field of engineering machining which is characterised by work-to-order, low volume manufacture of components using various machining methods. The emerging industry is characterised by greater precision, higher volumes, and higher standards of quality. This qualification spells out the skills needed to operate

successfully in this new field.

This qualification together with the associated qualifications in the series provides a developmental pathway for the full range of activities required for production machining. The skills and knowledge required are described in a generic manner so that the changing needs of particular worksites can be met without requiring changes to the qualification or the unit standards.

This is the third in a learning pathway of four qualifications in a learning pathway for CNC production machining. The pathway begins with the National Certificate in CNC Production Machining NQF Level 2 and ends with the National Certificate in CNC Production Machining NQF Level 5. Typical learners would have achieved the National Certificate in CNC Production Machining NQF Level 3. Once qualified, they would typically be responsible for initiating and maintaining production processes. They would perform a range of tasks autonomously within the context of an overall team. This role represents a recognised position in the organisation.

This qualification series recognises skills, knowledge and values relevant to a workplace and requires workplace experience. It is suitable for learners who:

- > Attend courses and then apply the knowledge gained to activities in the workplace (Portfolio to reflect formative assessment), 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
- > Participate in skills programmes and have the appropriate work experience, or
- > Are part of a learnership programme which integrates structured learning and work experience, or
- > Acquire their learning through any combination of the above.

The outcomes of this qualification combine skills and knowledge in the technical, inter-personal and business spheres, enabling the learner to perform the operational aspects of the work, function within a team context and contribute to value-adding processes within the organisation.

This qualification provides learners who have gained relevant experience in the workplace with an opportunity to obtain credits through an RPL process.

The qualification also forms the basis for further learning in the field of CNC production machining where the learner will be able to manage and develop manufacturing capabilities, optimise manufacturing processes and plan and cost production.

Learner achievements will contribute to the ability of South African companies to compete for work in the global economy, thus securing jobs and employment opportunities.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

The following competencies are assumed for a learner embarking on this qualification:

- > Communication and Mathematical Literacy, NQF Level 3.
- > In addition, learners are assumed to have the following skills at NQF Level 3 in the context of CNC production machining:
 - > Set up and initiate manufacturing processes.
 - > Monitor and control the flow of work.
 - > Monitor safety, health and environmental practices.
 - > Monitor and maintain the quality of the product.

Recognition of Prior Learning:

This qualification may be obtained through a 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. The guidelines for integrated assessment should be used to develop the RPL assessment process. As with integrated assessment, while this is primarily a workplace-based qualification, evidence from other areas of endeavour may be introduced if pertinent to any of the Exit Level Outcomes.

Access to the qualification:

There is open access to this qualification. A workplace is, however, a prerequisite to obtaining the relevant

work experience and evidence required for the assessment of the Exit Level Outcomes.

QUALIFICATION RULES

- > The total number of credits for this qualification is 162.
- > The total number of credits in the Fundamental component is 56.
- > The total number of credits in the Core component is 94.
- > The minimum number of Elective credits is 12.
- > The Elective credits should be chosen in accordance with the requirements of the selected context and the interests of the learner.

EXIT LEVEL OUTCOMES

1. Interpret drawings and develop CNC machining process plans, programmes and work instructions for new components.
 - > Range: Drawings include CAM.
 - > Range: Lay out includes using the correct references to determine the holding methods and reduce the number of clamping operations, choice of tooling, jigs, fixtures, manufacturing equipment; speeds and feeds.
 - > Range: Programmes include manual programming (manual data input - MDI).
2. Set up and qualify all the processes.
 - > Range: Processes includes manufacturing and measurement processes.
3. Identify and rectify manufacturing problems.
 - > Range: Identify includes checking with and listening to relevant operators, and reporting issues to relevant personnel.
4. Work as part of the manufacturing team and coach and support manufacturing personnel and learners.
 - > Range: Working as part of the team includes providing inputs to projects, (processes, planning, scheduling principles, progress reports).

Critical Cross-Field Outcomes:

These are embedded in the unit standards which make up the qualification and are thus also reflected in the Exit Level Outcomes of the qualification.

The Critical Cross-Field Outcomes are supported by the Exit Level Outcomes as follows:

- > Identifying and solving problems in which responses display that responsible decisions using critical thinking have been made:
 - > Evident in all Exit Level Outcomes.
- > Working effectively with others as a member of a team, group, organization and community:
 - > Evident in all Exit Level Outcomes.
- > Organising and managing oneself and one's activities responsibly and effectively:
 - > Evident in all Exit Level Outcomes.
- > Collecting, analysing, organizing and critically evaluating information:
 - > Evident in all Exit Level Outcomes.
- > Communicating effectively using visual, mathematical and/or language skills:
 - > Evident in all Exit Level Outcomes.
- > Using science and technology effectively and critically, showing responsibility toward the environment and health of others:
 - > Evident in all Exit Level Outcomes.
- > Demonstrating an understanding of the world as a set of related systems by recognizing that problem contexts do not exist in isolation:
 - > Evident in all Exit Level Outcomes.

ASSOCIATED ASSESSMENT CRITERIA

1:

- > Layout is prepared in accordance with design specification.
- > Range: Layout includes choice of jigs, fixtures, cutting tools.

- > Manufacturing layout is aligned to the plan for producing a product within specification.
- > Range: Manufacturing layout: i.e. the manufacturing sequence as per the process plan.

- > The correct version of documents are used in the CNC machining process.

- > Choices are justified and issues relating to the choices are discussed and applied in accordance with requirements.
- > Range: Processes and equipment; understanding of lean manufacturing techniques; knowledge of materials, manufacturing processes (including heat treatment) and equipment principles of metal cutting (including cutting fluids, speeds and feeds); measuring methods, equipment, tolerances, finishes and fits.

- > Work instructions are complete and clear as per requirements.
- > Range: Complete includes all operations and instructions.
- > Range: Clear means language appropriate to users and correct use of terminology; all manufacturing aids are identified and specified.

- > Documents are sequenced in accordance with procedures.

- > Stage drawings are produced in accordance with specifications.

- > Processes relating to the development of work instructions are explained and discussed in accordance with requirements.
- > Range: Engineering drawings, symbols (fits, surface finishes), relevant standards, (e.g. ISO, BS, DIN, API, SAE, IAS); using website to access relevant standards; knowledge of configuration management.

2:

- > Manufacturing and measurement processes are adjusted to meet design specifications.
- > Range: Specifications include remarks, redline drawings.

- > Methods are robust and verified to mass-produce within the specifications.
- > Range: Demonstrate statistically that the equipment will consistently produce the right quality component; calculate control limits; update data pack.

- > Issues and principles related to process qualification are explained and applied in accordance with requirements.
- > Range: Knowledge of manufacturing statistics, statistical process control, basic metrology, basic metallurgy, quality management systems applicable to his context (e.g. ISO 9000, motor industry specific QMS, armaments industry QMS); processes related to approval of the product for manufacturing.

3:

- > The manufacturing process is checked and verified for efficiency and competitiveness.
- > Range: Efficient and competitive: that which is within the limits of available machinery and resources.

- > Layout and the data pack is revised and improved in accordance with requirements.

- > A systematic approach is taken to the problem solving.
- > Range: Methods of problem solving, e.g. Ishikawa (fishbone) diagrams; 8-D TOPS (8 Discipline Team Oriented Problem Solving).

- > All available resources are consulted in accordance with procedures.

- > Statistical process control is explained in accordance with requirements.
- > Range: Purpose of various types of charts; error conditions.

4:

- > Issues are communicated to the relevant personnel in accordance with requirements.
- > Range: Relevant personnel include operators, supervisors, production and quality management; in small companies includes the customer.
- > Range: Communication includes listening to and evaluating inputs from all sources, and using the information.

- > Performance of manufacturing personnel and learners is improved and meets requirements.

> Issues related to communication, inter-personal relationships and diversity are explained and discussed in accordance with requirements.

Integrated assessment:

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

- > Evaluating evidence in a portfolio of evidence, particularly projects which integrate various aspects of the qualification and which demonstrate the integration of all aspects of learning: fundamental and core; knowledge, skills and values; the development of the critical outcomes.
- > Observing and listening to the learner at work, both in primary activities as well as in other interactions, or in relevant simulations.
- > Asking questions and initiating short discussions to test understanding and to verify other evidence.
- > Looking at records and reports.
- > Formative and summative assessment of unit standards.

Assessment of competence for this qualification is based on experience acquired by the learner in the workplace, within the particular CNC production machining context. The assessment process should cover the explicit tasks required for the qualification as well as the understanding of the underlying concepts and principles. The assessment process should also establish how the learning process has advanced the Critical Cross-Field Outcomes.

The learner may choose in which language he/she 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 workplace-based qualification, evidence from other areas of endeavour may be presented if pertinent to any of the Exit Level Outcomes.

Assessors should also evaluate evidence that the learner is able to perform consistently over a period of time.

Learners can be assessed on:

- > A machining centre, or
- > A CNC lathe or turning centre, or
- > Any other equipment in which material is removed to form the part, e.g. cutting, boring, grinding.

INTERNATIONAL COMPARABILITY

These qualifications represent the learning progression for an occupation which focuses on the machining of precision parts and components using computer numerical control (CNC). The stages of development related to CNC machining equipment are:

- > Operator.
- > Setter, including elements of programming.
- > Programmer, including trouble shooting and management of manufacturing processes.
- > Specialist, including process design, costing, trouble shooting and selection and implementation of new technology.

Machining includes processes such as cutting, boring, turning, milling and grinding. It may also include punching and nibbling.

Many CNC courses are not designed for occupational development on a step-by-step basis. Generally the courses assume a general knowledge of machining or engineering and build CNC knowledge and skills specific onto this. An example can be given with a 450-hour course in Sweden. The course cuts across 3 NQF levels. Other courses are design to focus on specific pieces of equipment such as a turning centre.

Training processes for the occupations outlined above are varied. The following encompass some of the options:

- > Skills and knowledge upgrading of qualified tradespersons in the mechanical engineering field.
- > Short courses and on-the-job training.
- > Apprenticeships.

> Vocational education and training programmes followed by a work experience component.

Comparisons was therefore conducted on occupational profiles in the following way:

- > Occupational role - Exit Level Outcomes.
- > Occupational activities - Unit standards and specific outcomes.

This approach can be supported by referring to curriculum contents and course outlines.

The above occupations and the related career path are similar to descriptions found in various OECD countries belonging to the Organisation for Economic Co-operation and Development (OECD), e.g. the United States of America.

Apart from CNC-specific training, there are a number of common characteristics found in most general education and training programmes. These include:

- > Knowledge and ability to perform manual machining operations in at least one discipline.
- > Ability to read and interpret engineering drawings.
- > Knowledge of and ability to use and apply statistical process control techniques.
- > Principles and application of quality management systems, including customer focus.

In addition to these occupation-specific requirements, general requirements such as communication, mathematical literacy, safety, health and the environment, risk assessment, team skills, computer literacy and problem solving abilities are also required.

A survey of a range of occupational profiles and training courses from a variety of countries including India, the United Kingdom, Sweden, Canada and the United States of America reveal the following features at the level of the programmer:

- > Review three-dimensional computer aided/automated design (CAD) blueprints of the part.
- > Calculate where to cut or bore into the workpiece, how fast to feed the metal into the machine, and how much metal to remove.
- > Select tools and materials for the job and plan the sequence of cutting and finishing operations.
- > Turn the planned machining operations into a set of instructions.
- > Translate into a computer aided/automated manufacturing (CAM) program.
- > Check new programs to ensure that the machinery will function properly and that the output will meet specifications. Because a problem with the program could damage costly machinery and cutting tools, computer simulations may be used to check the program instead of a trial run.
- > If errors are found program must be changed and retested until any problems are resolved.

Other aspects of this occupation relate to:

- > Co-ordinating activities and workflow.
- > Ensuring continuous quality.
- > Ensuring safety, health and environmental issues.
- > Working with various team members and other departments.
- > Troubleshooting, solving logistical materials and human resources issues.
- > Scheduling and monitoring maintenance.

Comparison with the South African NQF Level 4 qualifications:

The Exit Level Outcomes map well to the occupational profile:

- > Interpret drawings and develop CNC machining process plans, programmes and work instructions for new components.
- > Set up and qualify all the processes.
- > Identify and rectify manufacturing problems.
- > Work as part of the manufacturing team and coach and support manufacturing personnel and learners.

These processes are reflected in the choice of technical unit standards for the NQF Level 4 qualification. The link to CAD/CAM has been included in the NQF Level 5 qualification.

References:

- > Australia:
- > http://www.nmit.vic.edu.au/courses/manufacturing/engmech_cer3_a.html

- > <http://www.tafe.swin.edu.au/eng/>
- >
- http://domino.swin.edu.au/__CA256F56001FE705.nsf/0/3D02C44303D6F632CA25690E000A2FB8?OpenDocument&filter=D
- > McLennan, W (Statistician General) 1997. Australian Standard Classification of Occupations, Second Edition Canberra: Australian Bureau of Statistics
- > Canada:
- > http://www.skillscanada.com/en/corporate/profiles/index_cncturning.php
- > http://www.mcbridecareergroup.com/images/pdfs/cnc_machinist.pdf
- > Botswana:
- > http://www.ub.bw/departments/engineering/technology_mission.cfm
- > Germany:
- > <http://www.bibb.de/en/9673.htm>
- > <http://www.bibb.de/de/11988.htm>
- > India:
- > <http://delhigovt.nic.in/newdelhi/dept/industries/about.asp>
- > Kenya:
- > www.learningresources.co.ke/downloads/SHE.PDF
- > Nigeria:
- > <http://fmst.gov.ng/docs/2004MiniserialPressBriefing.pdf>
- > Sweden:
- > <http://kaplanskolan.skelleftea.se/Skrivbord/Dokument%20KP/Site%20KP/English?templates=eduPage>
- > UK:
- > <http://www.learn-direct-advice.co.uk/helpwithyourcareer/jobprofiles/profiles/profile825/>
- > <http://www.connexions-direct.com/jobs4u/jobfamily/engineering/toolmakermachinesetter.cfm?fd=503>
- > USA:
- > <http://www.bls.gov/oco/ocos286.htm>
- > <http://www.umsi.edu/services/govdocs/oooh20002001/356.htm>
- > <http://www.btc.ctc.edu/coursedocs/Programs/pComputerizedMachining.asp>
- > <http://www.ntma.org/eweb/StartPage.aspx>
- > <http://www.i-train.org/CourseDisplay.asp?db=I&provider=C8088>
- > <http://www.akronmach.com/cnc2.htm>

Country specific searches were also made for Brazil, Korea, Japan, Swaziland, Zimbabwe, Zambia.

ARTICULATION OPTIONS

This qualification articulates vertically with the:

- > National Certificate: CNC Production Machining, NQF Level 5 (Under development).

This qualification articulates horizontally with other engineering qualifications at this level, e.g.

- > 23256: National Certificate: Mechanical Engineering: Fitting and Machining, NQF Level 4.
- > 23279: National Certificate: Mechanical Engineering: Machining, NQF Level 4.
- > 23281: National Certificate: Mechanical Engineering: Tooling Manufacture, NQF Level 4.

MODERATION OPTIONS

> Anyone assessing a learner or moderating the assessment of a learner against this Qualification must be registered as an assessor with an appropriate Education and Training Quality Assurance Body (ETQA) or with an ETQA that has a 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 or with an ETQA that has a Memorandum of Understanding with the relevant ETQA.

> Moderation of assessment will be overseen by the relevant ETQA or by an ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.

> 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 as well as in the exit level outcomes described in the Qualification.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

The following criteria should be applied by the relevant ETQA:

- > Appropriate qualification at one level higher than the level of the qualification with a minimum of 2 years' experience of a relevant process of CNC production machining.
- > Registration as an assessor with a relevant ETQA.

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	10981 Supervise work unit to achieve work unit objectives (individuals and teams)	Level 4	12	Reregistered
Core	13194 Perform statistical process control	Level 4	12	Registered
Core	13235 Maintain the quality assurance system	Level 4	5	Registered
Core	13254 Contribute to the implementation and maintenance of business processes	Level 4	10	Registered
Core	13315 Write simple computer numerical controlled (CNC) programmes and set and operate a CNC machine	Level 4	24	Reregistered
Core	14473 Develop and produce computer aided drawings	Level 4	4	Reregistered
Core	14474 Plan and schedule workflow	Level 4	3	Registered
Core	120375 Participate in the estimation and preparation of cost budget for a project or sub project and monitor and control actual cost against budget	Level 4	6	Registered
Core	243016 Qualify a CNC machining process	Level 4	10	Draft - Prep for P Comment
Core	243027 Contribute to and improve quality practices in CNC machining operations	Level 4	8	Draft - Prep for P Comment
Elective	13224 Monitor the application of safety, health and environmental protection procedures	Level 4	4	Registered
Elective	114877 Formulate and implement an action plan to improve productivity within an organisational unit	Level 4	8	Registered
Elective	116292 Demonstrate an understanding of the principles of manufacturing and assembly logistics planning	Level 4	12	Registered
Elective	119187 Monitor maintenance of plastics manufacturing equipment, tooling and services	Level 4	4	Registered
Elective	119257 Produce and maintain work activity reports	Level 4	8	Registered
Fundamental	119457 Interpret and use information from texts	Level 3	5	Registered
Fundamental	119465 Write/present/sign texts for a range of communicative contexts	Level 3	5	Registered
Fundamental	119467 Use language and communication in occupational learning programmes	Level 3	5	Registered
Fundamental	119472 Accommodate audience and context needs in oral/signed communication	Level 3	5	Registered
Fundamental	7468 Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	Level 4	6	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	Reregistered
Fundamental	12155 Apply comprehension skills to engage written texts in a business environment	Level 4	5	Reregistered
Fundamental	119462 Engage in sustained oral/signed communication and evaluate spoken/signed texts	Level 4	5	Registered
Fundamental	119471 Use language and communication in occupational learning programmes	Level 4	5	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Operate and monitor computerised numerically controlled (CNC) machining equipment

SAQA US ID	UNIT STANDARD TITLE		
243014	Operate and monitor computerised numerically controlled (CNC) machining equipment		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Manufacturing and Assembly Processes		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	16	Level 2	Regular

SPECIFIC OUTCOME 1

Use the correct terminology to explain, discuss and describe components, machine states and functions of CNC machinery.

SPECIFIC OUTCOME 2

Interpret and follow written and oral job instructions and assist in the preparation of the CNC machining.

SPECIFIC OUTCOME 3

Start and stop the CNC machine, monitor and adjust the machining process and report malfunctions or problems.

SPECIFIC OUTCOME 4

Load material into the machine and produce the product.

SPECIFIC OUTCOME 5

Monitor variations on Statistical Process Control plots, identify when production reaches an error condition and respond.

SPECIFIC OUTCOME 6

Perform housekeeping tasks and dispose of waste.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

Qualify a CNC machining process

SAQA US ID	UNIT STANDARD TITLE		
243016	Qualify a CNC machining process		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Manufacturing and Assembly Processes		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 4	Regular

SPECIFIC OUTCOME 1

Develop statistical process control tools to measure the product's critical characteristics.

SPECIFIC OUTCOME 2

Set up process to run production, measure production and compile statistical process control charts.

SPECIFIC OUTCOME 3

Determine the frequency of measuring and testing processes.

SPECIFIC OUTCOME 4

Identify any instabilities in the process, identify the cause and rectify.

SPECIFIC OUTCOME 5

Adjust process, tools and equipment until the process is stable.

SPECIFIC OUTCOME 6

Record changes and submit requests for updating the datapack.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Set up and start CNC machining processes

SAQA US ID	UNIT STANDARD TITLE		
243024	Set up and start CNC machining processes		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Manufacturing and Assembly Processes		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	14	Level 3	Regular

SPECIFIC OUTCOME 1

Perform pre-operational procedures, plan and prepare for setup process.

SPECIFIC OUTCOME 2

Select, lay out and secure tools and fixtures and set up the equipment.

SPECIFIC OUTCOME 3

Select, load and secure material, and unload finished product.

SPECIFIC OUTCOME 4

Set up equipment, produce first off and obtain quality approval.

SPECIFIC OUTCOME 5

Hand over to production operator and ensure the running of the process.

SPECIFIC OUTCOME 6

Identify and report or rectify set up problems.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

4

Monitor machining process, interpret statistical process control charts, and rectify production problems

SAQA US ID	UNIT STANDARD TITLE		
243025	Monitor machining process, interpret statistical process control charts, and rectify production problems		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Manufacturing and Assembly Processes		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	7	Level 3	Regular

SPECIFIC OUTCOME 1

Describe and explain the purpose of quality processes and the relationship to work activities.

SPECIFIC OUTCOME 2

Review statistical information and identify unstable processes.

SPECIFIC OUTCOME 3

Analyse the process conditions in unstable processes and determine the cause of the problem.

SPECIFIC OUTCOME 4

Implement remedial action, monitor and evaluate the effect of changes and record and report actions.

SPECIFIC OUTCOME 5

Monitor the production process.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

5

Contribute to and improve quality practices in CNC machining operations

SAQA US ID	UNIT STANDARD TITLE		
243027	Contribute to and improve quality practices in CNC machining operations		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Manufacturing and Assembly Processes		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 4	Regular

SPECIFIC OUTCOME 1

Monitor the adherence to quality assurance standards and procedures.

SPECIFIC OUTCOME 2

Review performance, identify areas of possible improvement, record and report to responsible persons.

SPECIFIC OUTCOME 3

Maintain and update quality documentation and instruments.

SPECIFIC OUTCOME 4

Develop and adapt quality procedures to address quality problems and/or meet changing requirements.

SPECIFIC OUTCOME 5

Implement and evaluate improvement on changes made.

SPECIFIC OUTCOME 6

Participate in audits and compile reports on quality assurance issues in area of responsibility.

No. 1164

24 November 2006

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

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

Food

registered by Organising Field 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. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the qualification and unit standards should reach SAQA at the address *below and no later than 23 December 2006*. All correspondence should be marked **Standards Setting – SGB for Food** and addressed to

The Director: Standards Setting and Development
SAQA

Attention: *Mr. D. Mphuthing*

Postnet Suite 248

Private Bag X06

Waterkloof

0145

or faxed to 012 – 431-5144

e-mail: dmphuthing@saqa.org.za

DR. S BHIKHA

DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:

National Certificate: Meat Processing

SAQA QUAL ID	QUALIFICATION TITLE		
57880	National Certificate: Meat Processing		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food	6		
QUAL TYPE	ORGANISING FIELD DESCRIPTION	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:

A learner acquiring this qualification will be able to produce a variety of safe, quality assured processed and value-added meat products, fresh meat retail cuts and products according to customer needs and requirements, minimum legislation, food safety requirements and company requirements. This qualification will allow a learner to advance to learning in production or management or business management within a food manufacturing or in a customer service environment.

A learner acquiring this qualification will be able to communicate requests as a team leader, service customers, work independently, cut a variety of fresh meat cuts and process it into fresh meat retail products, whilst adhering to personal and food safety, quality and environmental requirements and specifications. Portable competencies such as performing quality control practices will be obtained.

Or

A learner acquiring this qualification will be able to prepare meat carcasses for further processing and manufacture value-added meat products, whilst adhering to personal and food safety, quality and environmental requirements and specifications.

This qualification will allow a person to have access to education, training and career paths within the fresh meat processing and retail industry, ensuring learning mobility and progression on the framework through articulation with other qualifications. This qualification will enhance the social, economic and personal development of the learner, as well as the sustainability and productivity of the fresh meat processing and retail industry. The qualification will accelerate the redress of past unfair discrimination in education, training and employment opportunities.

Rationale:

This qualification reflects the workplace-based needs of the meat processing and retail industry that are expressed by employers and employees, both now and for the future. Typical learners will be persons who are currently working in a meat processing and/or retail environment who have not received any formal recognition for their skills and knowledge, or learners with a broad knowledge and skills base in food handling practices who want to specialise in the fresh meat processing and retail environment or learners from a fast moving consumer goods (FMCG) processing environment who want to broaden their skills and knowledge.

This qualification is a replacement of the National Certificate in Fresh Meat Processing NQF Level 3, of which the demand was based on the transformation of the Butcher's Qualification (previously referred to as the "Block Man" or "Meat Cutting Technician") into a qualification that meets the needs of the relevant

industry, supporting the principles of the NQF and providing the flexibility of bridging into a management type of qualification with a strong customer focus. This qualification aims at providing formal recognition for competencies already obtained and will continue to do so by providing recognition to workers in the fresh meat processing and retail industry. In addition, this qualification provides the learner with the opportunity to obtain competencies in fresh meat processing and retail within the workplace, as well as in food safety and quality control, which will ensure food products that are healthy and safe for human consumption. In this way, value is added to worker's employability and competence and the sustainability of the fresh meat processing and retail industry is improved.

The qualification also replaces the National Certificate in Food and Beverage Processing: Meat Processing: NQF Level 3. This qualification aims at providing formal recognition for competencies already obtained and will continue to do so by providing recognition to workers in the meat processing industry. In addition, this qualification provides the learner with the opportunity to obtain competencies in meat processing within the workplace, as well as in food safety and quality control, which will ensure food products that are healthy and safe for human consumption. In this way, value is added to the worker's employability and competence and the sustainability of the meat processing industry is improved.

This qualification provides the learner with the skills and knowledge necessary to be employed in different careers within the meat industry, including the small, medium and micro enterprise. It also provides the learner with the opportunity to pursue careers within other sectors of the food industry. The range of electives will allow the individual to pursue careers within fresh meat processing and value-adding meat processing, junior management and wholesale and retail. Skilled workers are one of the key players in better manufacturing standards and productivity, both factors that may increase business prosperity. This qualification will assist in social and economic transformation.

The following range statement is applicable to fresh meat processing:

> Meat includes meat obtained from the normal, domesticated range of animals usually used as meat suitable for human consumption, e.g. calves and cattle, lambs and sheep, piglets and pigs, kids and goats, horses and donkeys, as well as ostriches and large and small game. Meat excluded from this range is crocodile meat and poultry.

> This qualification should include at least two of the above-mentioned species, one of which must include beef.

RECOGNIZE PREVIOUS LEARNING?

Y

LEARNING ASSUMED TO BE IN PLACE

It is assumed that learners are already competent in the following at NQF Level 2:

- > Communication.
- > Mathematical Literacy.
- > Understanding and application of food safety, hygiene practices and Good Manufacturing Practices (GMPs).

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. Evidence can be presented in a variety of forms, including previous international or local qualifications, reports, testimonials, mentoring functions performed, portfolios, work records and performance records. All evidence should be judged according to the general principles of assessment. Learners who have met the requirements of any unit standard that forms part of this qualification may apply for recognition of prior learning to the relevant ETQA. The applicant must be assessed against the specific outcomes and assessment criteria for the relevant unit standards. A qualification will be awarded should a learner demonstrate that all the exit level outcomes of the qualification have been attained.

Access to the qualification:

Access to this qualification is open bearing in mind learning assumed to be in place.

QUALIFICATION RULES

All the unit standards in the Fundamental (36 credits) and Core (30 credits) components are compulsory.

Specialisation Area A: Fresh Meat Processing:

The following unit standards totalling 38 credits are compulsory for the learners in the fresh meat processing:

- > 243032: "Break meat carcasses into primal cuts", NQF Level 3, 15 Credits.
- > 243029: "De-bone and cut meat primal cuts into retail cuts", NQF Level 3, 10 Credits.
- > 243018: "Mince fish or meat using automated mincing equipment", NQF Level 3, 4 Credits.
- > 243028: "Form or fill raw minced fish or meat products using automated equipment", NQF Level 3, 5 Credits.
- > 243020: "Salt and dry fish or meat", NQF Level 3, 4 Credits.

In addition, the learner must choose at least 16 credits from the additional Elective component, of which at least 6 credits must be from the following unit standards:

- > 243033: "Cut and de-bone poultry carcasses into portions for meat retailing or further processing", NQF Level 3, 6 Credits.
- > 243030: "Manufacture emulsified meat products", NQF Level 3, 8 Credits.
- > 243010: "Cure fish or meat products", NQF Level 3, 8 Credits.
- > 243019: "Smoke fish or meat products", NQF Level 3, 8 Credits.
- > 9054: "Coat or dip a food product using automated equipment", NQF Level 2, 6 Credits.
- > 8807: "Freeze or chill a food product", NQF Level 3, 8 Credits.

The remaining 10 credits of the 16 may be chosen from any of the unit standards listed under the Elective component in order to make up the total of 120 credits for the full qualification.

Specialisation Area B: Meat Processing:

The following unit standards totalling 28 credits are compulsory for learners in the meat processing:

- > 243015: "Split and cut pig carcasses into primal cuts", NQF Level 3, 15 Credits.
- > 243017: "De-rind and de-bone various pork cuts", NQF Level 3, 10 Credits.
- > 243022: "Sort de-boned pork cuts for further processing", NQF Level 2, 3 Credits.

In addition, the learner must choose at least 26 credits from the additional Elective component, of which at least 20 credits must be from the following unit standards:

- > 243026: "Break beef sides and de-bone primal beef cuts", NQF Level 3, 15 Credits.
- > 243033: "Cut and de-bone poultry carcasses into portions for meat retailing or further processing", NQF Level 3, 6 Credits.
- > 243018: "Mince fish or meat using automated mincing equipment", NQF Level 3, 4 Credits.
- > 243020: "Salt and dry fish or meat", NQF Level 3, 4 Credits.
- > 243028: "Form or fill raw minced fish or meat products using automated equipment", NQF Level 3, 5 Credits.
- > 243030: "Manufacture emulsified meat products", NQF Level 3, 8 Credits.
- > 243010: "Cure fish or meat products", NQF Level 3, 8 Credits.
- > 243019: "Smoke fish or meat products", NQF Level 3, 8 Credits.
- > 9054: "Coat or dip a food product using automated equipment", NQF Level 2, 6 Credits.
- > 243009: "Sterilise a food or beverage product using retorting equipment", NQF Level 3, 12 Credits.
- > 243031: "Manufacture fermented meat sausages", NQF Level 4, 10 Credits.
- > 8806: "Fry food products using vacuum or atmospheric frying equipment", NQF Level 3, 20 Credits.
- > 8807: "Freeze or chill a food product", NQF Level 3, 8 Credits.

The remaining six credits of the 26 may be chosen from any of the unit standards listed under the Elective component in order to make up the total of 120 credits for the full qualification.

EXIT LEVEL OUTCOMES

Qualifying learners can:

1. Maintain and apply food safety and quality control practices in a fresh meat processing and retail environment.
2. Work with and interpret numbers and shapes in a fresh meat processing and retail environment.
3. Communicate in variety of ways in a fresh meat processing and retail environment.

Or:

4. Produce fresh meat retail cuts according to customer requirements in the fresh meat processing and retail environment.

5. Produce fresh meat products in a fresh meat processing and retail environment.

Or:

6. Prepare pig carcasses for further processing.

7. Manufacture value-added meat products in a meat processing environment.

Critical Cross-Field Outcomes:

Critical Cross-Field Outcomes have been addressed by the exit level outcomes as follows:

1. Identify and solve problems in which response displays that responsible decisions, using critical and creative thinking, have been made by:

> Problem solving during processing tasks.

> Evident in Exit Level Outcome(s): 2; 3.

> Reporting poor food safety and quality.

> Evident in Exit Level Outcome(s): 1.

> Identifying poor quality fresh meat products.

> Evident in Exit Level Outcome(s): 1.

2. Work effectively with others as a member of a team, group, organisation or community by:

> Applying team-work during food safety and quality control practices and processing of fresh meat.

> Evident in Exit Level Outcome(s): 1; 2; 3.

> Co-ordinating one's work with that of others in the direct surrounding area.

> Evident in Exit Level Outcome(s): 1; 2; 3; 4; 5.

3. Organise and manage oneself and one's activities responsibly and effectively by:

> Planning one's activities.

> Evident in Exit Level Outcome(s): 1; 2; 3; 4; 5.

> Keeping organised, legible, coherent and focused records.

> Evident in Exit Level Outcome(s): 4; 5.

4. Collect, analyse, organise and critically evaluate information by:

> Performing quality control practices and evaluating the results.

> Evident in Exit Level Outcome(s): 1.

> Keeping organised, legible, coherent and focused records.

> Evident in Exit Level Outcome(s): 5.

> Evaluating the results of quality control practices.

> Evident in Exit Level Outcome(s): 1.

5. Communicate effectively by using mathematical and/or language skills in the modes of oral and/or written presentations by

> Reading and interpreting quality control documentation.

> Evident in Exit Level Outcome(s): 5.

> Communicating effectively in a verbal manner.

> Evident in Exit Level Outcome(s): 5.

> Gathering and applying information regarding knowledge, processes and procedures in a fresh meat processing and retail environment.

> Evident in Exit Level Outcome(s): 5.

> Keeping organised, legible, coherent and focused records.

> Evident in Exit Level Outcome(s): 5.

6. Use science and technology effectively and critically, showing responsibility towards the environment and health of others by

> Working according to health and safety regulations.

> Evident in Exit Level Outcome(s): 1; 2; 3; 4.

> Performing quality control practices and evaluating the results.

> Evident in Exit Level Outcome(s): 1.

7. Demonstrate an understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation by:

> Problem solving during processing tasks.

> Evident in Exit Level Outcome(s): 2; 3.

> Reporting poor food safety and quality.

> Evident in Exit Level Outcome(s): 1; 5.

> Identifying poor quality fresh meat products and reporting it to management.

> Evident in Exit Level Outcome(s): 1; 5.

8. Contribute to the full personal development of each learner and the social and economic development of the society at large by:

> Maintaining and applying food safety and quality control practices in a fresh meat processing and retail environment.

> Evident in Exit Level Outcome(s): 1.

> Producing fresh meat cuts and products in a fresh meat processing and retail environment.

> Evident in Exit Level Outcome(s): 2; 3.

> Working with and interpreting numbers and shapes in a fresh meat processing and retail environment.

> Evident in Exit Level Outcome(s): 4.

> Communicating in variety of ways in a fresh meat processing and retail environment.

> Evident in Exit Level Outcome(s): 5.

ASSOCIATED ASSESSMENT CRITERIA

1:

> Knowledge and comprehension of the concept of microbiology and the effect of micro-organisms on personal health, hygiene and food product safety are applied according to standard food microbiological principles.

> Quality control practices are performed in the fresh meat processing and retail environment according to the quality assurance policy and standard operating procedures.

> The temperature of raw and final products and their environment are monitored and controlled according to the quality assurance policy and standard operating procedures.

> Critical control points in the fresh meat processing and retail environment are identified and monitored as part of the organisation's Hazard Analysis Critical Control Points (HACCP) system.

> The factors that will influence meat quality are identified and dealt with according to the standard operating procedures relevant to the specific context of the learner's work environment.

2:

> Temperatures are measured, interpreted and controlled within the fresh meat processing and retail environment.

> Quality control documentation is read and interpreted for application in further processing.

> Processing parameters are set, monitored and controlled according to standard operating procedures.

> Meat carcasses are broken into primal cuts and meat primal cuts are cut into retail cuts according to applicable size requirements.

3:

- > Effective verbal communication is demonstrated during working with peers, customers and members of management.
- > Quality control documentation is read and interpreted for application in further processing.
- > Processing reports, records and documentation are identified, understood, organised, interpreted and presented in a legible, focused and coherent manner.
- > Information is gathered and applied regarding knowledge, processes and procedures within a fresh meat processing and retail environment.

Or:

4:

- > Meat carcasses are broken into primal cuts according to standard operating procedures.
- > Meat primal cuts are de-boned and cut into retail cuts according to standard operating procedures.

5:

- > Fresh meat is minced according to standard operating procedures and by using automated equipment.
- > Raw minced meat is formed or filled according to standard operating procedures.
- > Fresh meat products are salted and dried according to standard operating procedures.

Or:

6:

- > Pig carcasses are split and cut into primal cuts according to standard operating procedures.
- > Pork cuts are de-rinded and de-boned according to standard operating procedures.
- > De-boned pork cuts are sorted for further processing according to standard operating procedures.

7:

- > Value-added meat products are manufactured according to standard operating procedures.
- > Range: Manufacturing refers to any combination of the following:
 - > Breaking beef sides and de-boning primal beef cuts.
 - > Cutting and de-boning poultry carcasses.
 - > Mincing.
 - > Salting and drying.
 - > Forming or filling raw minced meat.
 - > Emulsifying.
 - > Curing.
 - > Smoking.
 - > Coating or dipping.
 - > Retort sterilisation.
 - > Manufacturing of fermented meat sausages.
 - > Frying.
 - > Freezing or chilling.

Integrated assessment:

The applied competence (practical, foundational and reflexive competencies) of this qualification will be achieved if a learner is able to process meat carcasses into safe, quality assured retail meat cuts and products according to customer needs and requirements.

The identifying and solving of problems, team work, organising oneself, the using of applied science, the implication of actions and reactions in the world as a set of related systems must be assessed during any combination of practical, foundational and reflexive competencies demonstrated. Assessment methods and tools must be designed to determine the whole person's development and integration of applied knowledge and skills.

Applicable assessment tool(s) must be used to establish the foundational, reflexive and embedded knowledge applied to solve problems.

A detailed portfolio of evidence is required to prove the practical, applied and foundational competencies of the learner.

Assessors should develop and conduct their own integrated assessment by making use of a range of formative and summative assessment methods and should assess combinations of practical, applied, foundational and reflexive competencies. 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.

The Exit Level Outcomes of this qualification can be assessed in one application.

Unit standards in the qualification must be used to assess specific and Critical Cross-Field Outcomes.

INTERNATIONAL COMPARABILITY

Benchmarking was done against the NZQA from New Zealand, NVQ from England, Wales and Northern Ireland, AQF from Australia and the SVQ from Scotland.

On the NZQA from New Zealand, the five qualifications for Meat Retailing are found on Levels 2 - 5, namely:

> National Certificate in Meat Retailing (Meat Packing) - Level 2:

> Purpose: Producing trays of wrapped and labelled meat suitable for display, controlling stock in a meat retail outlet, communication and proper personal presentation, performing food safety practices and prevention of contamination.

> National Certificate in Meat Retailing (Curing, Smoking and Smallgoods) - Level 3:

> Purpose: Curing and smoking of meat products, production of mince-based smallgoods for use in meat retailing and performing personal safety and food safety practices.

> National Certificate in Meat Retailing (Carcass Boner) - Level 4:

> Purpose: Boning of beef, pork, sheep and poultry carcasses for the retail and wholesale trade in a safe and hygienic manner.

> National Certificate in Meat Retailing (Proficient) with optional strands in Boning; Curing, Smoking and Smallgoods; Retailing; and Forecasting, Purchasing and Production - Level 4:

> Purpose: Covers all the skills required of a modern meat retailer by the majority of stakeholders in the meat retailing sector. Learners may choose to complete any or all of the optional strands. The previous three qualifications lead to this qualification (they are smaller and have a narrower range as they are designed to focus on the specialised meat handling skills required by some enterprises).

> National Certificate in Meat Retailing (Management) - Level 5:

> Purpose: Management of processing and sales in retail meat business or department.

The different New Zealand qualifications most often cater for very specific skills, which are addressed in the South African version in the form of detailed range statements in the unit standards. The introductory meat processing skills are addressed in South Africa in the form of a GETC in Food Handling Processes.

The NQF Level 3 South African qualification does not offer different versions for different stakeholders within the meat retailing sector as does the New Zealand qualifications, but rather one qualification with the option to structure it according to stakeholder needs. Management skills are addressed in the South African qualification on Level 5 in Food and Beverage First Line Manufacturing Management.

As in the South African qualification, New Zealand poultry processing is only addressed in the form of single unit standards for processing of chickens and not in a specific qualification for poultry processing. The South African unit standards cover a broader range of poultry species than only chicken. Skills that are covered for poultry processing in the form of the New Zealand unit standards include the following, clearly somewhat more elaborate than in the case of the South African version:

- > Quality control checks and inspection on chickens.
- > Use of knives and scales for processing chickens.
- > Washing and trimming of chickens.
- > Hanging of live and eviscerated chickens.
- > Primary processing of chickens, especially cutting.
- > Secondary processing and manufacturing of value-added chicken products.
- > Packaging of chicken products.
- > Quality assurance during chicken processing.
- > Co-ordination of production.

On the NVQ from England, Wales and Northern Ireland, no qualifications could be found specifically for meat retailing. However, the three National Vocational Qualifications (NVQ's) address retail skills as part of the optional components of the qualifications. The following relevant NVQ's were found:

- > NVQ in Meat and Poultry Processing (Level 1 Foundational).
- > NVQ in Meat and Poultry Processing (Level 2 Intermediate).
- > NVQ in Meat and Poultry Processing (Level 3 Advanced).

The first two of the above-mentioned qualifications are similar to each other, except that the Level 2 qualification requires a choice of six, instead of two, optional units.

Mandatory units cover the following:

- > Safe working practices.
- > Processing of meat safely according to specific safety standards.

Optional unit cover the following:

- > Processing of meat according of quality standards.
- > Teamwork.
- > Handling of waste.
- > Hygiene, cleaning and sanitising.
- > Moving materials.
- > Receiving and dispatching stock, unloading, storing.
- > Sharpening and maintaining equipment.
- > Pre-slaughter care and slaughtering.
- > Stunning, bleeding, skinning, eviscerating.
- > De-hairing and de-feathering.
- > Supporting process operations.
- > Basic meat processing and cutting, boning, seaming, filleting and trimming.
- > Mixing, forming, massaging, extrusion, smoking, curing, marinating, heat treatment, cooling.
- > Packaging.
- > Quality control.
- > Weighing.
- > Labelling.
- > Retail functions (butchery, preparing orders, serving customers, displaying meat products, manufacturing of retail meat products).
- > Reporting and recording.

The Level 3 Advanced qualification offers four mandatory units in:

- > Occupational health and safety.
- > Hygiene in the workplace.
- > Teamwork.
- > Contributing to monitoring and controlling the quantity and quality of work in progress.

As well as one of six optional routes, namely:

- > Processing (Supervisory).
- > Technical.
- > Processing (Retail).
- > Production.
- > Processing (Dispatch).
- > Abattoirs.

Four units must be completed from the chosen route, or any four units to attain the qualification without endorsement. The different options show a lot of overlap and have a definite focus on management, quality assurance, training and process improvement and optimisation. This South African qualification therefore compares well with the retail option of the Level 3 NVQ, although the South African version offers a broader choice of Core and Elective components than the NVQ.

The AQF from Australia contains 4 qualifications for Meat Retailing on Certificate Levels I, II, III and V.

The focus of the Certificate level I Meat Retailing qualification is mainly on hygiene, personal safety, quality control, overview of the meat industry, communication, mathematical literacy, maintaining of equipment, identifying meat cuts, trimming, storing, mincing, preparing value-added products, customer service, cleaning and sanitising, routine preventative maintenance and first aid. The Certificate level II qualification requires the Certificate Level I qualification, plus a choice of additional technical units in more advanced processes like meat processing, manufacturing of value-added meat products, packaging, data collection

and equipment handling. The Certificate Level III qualification requires the Certificate Levels I and II, plus a choice of additional technical units in advanced skills in manufacturing of value-added meat products, calculation of yield, meeting customer needs, merchandising, costing, sampling, training and stock control. The Certificate Level V qualification has a pure management focus.

This South African qualification therefore compares well with the Australian qualifications' content and reveals the same type of level descriptors. Although a qualification on Level 2 is lacking on the South African NQF, the introductory meat processing and retail skills are addressed in the form of a GETC in Food Handling Processes and the management type of skills are addressed in the Level 5 qualification on Food and Beverage First Line Manufacturing Management.

No qualifications, but only single units, could be found on the AQF for poultry processing.

The SVQ from Scotland contains a qualification in Food and Drink Manufacturing Operations at Level 3. It consists of mandatory and optional units outlined below:

Mandatory units:

- > Controlling and maintaining quality.
- > Problem solving.
- > Maintaining and improving health, hygiene and safety.
- > Achieving organisational and personal goals.
- > Distribution of information.

Optional units:

- > Starting up and shutting down manufacturing operations.
- > Maintaining plant and equipment.
- > Contributing to auditing.
- > Training and development.
- > Handling and storage of materials.
- > Commissioning of plant equipment and process.
- > Effective use of resources.
- > People and human resource skills.
- > Implementing quality assurance systems.
- > Product development.
- > Improvement in operations.
- > Improvement in environmental practices.

Clearly the Scottish qualification has a more production-orientated focus and not a retail focus. No specific qualification for meat retailing could be found on the SVQ.

ARTICULATION OPTIONS

This qualification provides horizontal articulation with the:

- > 20196: National Certificate: Food and Beverage Processing: Meat Processing, NQF Level 3.
- > 20194: National Certificate: Food and Beverage Processing: Fish and Seafood Processing, NQF Level 3.
- > 48764: National Certificate: Wholesale and Retail Sales Practice, NQF Level 3.

Vertical articulation can occur with the:

- > 48915: Further Education and Training Certificate: Manufacturing and Assembly Operations Supervision, NQF Level 4.

MODERATION OPTIONS

- > Anyone assessing a learner or moderating the assessment of a learner against this qualification must be registered as an assessor and moderator respectively with the relevant ETQA, or with another ETQA that has a 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, or with another ETQA that has a Memorandum of Understanding with the relevant ETQA.
- > Assessment and moderation of assessment will be overseen by the relevant ETQA, or by another ETQA that has a Memorandum of Understanding with the relevant ETQA, according to the ETQA's policies and guidelines for assessment and moderation.

> 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 and 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

For an applicant to register as an assessor, the following are essential:

> Anyone assessing a learner against this qualification must be registered as an assessor with the relevant ETQA, or with another ETQA that has a Memorandum of Understanding with the relevant ETQA.

> The applicant should have a similar qualification at NQF Level 4 or higher and a minimum of 12 months field experience.

NOTES

This qualification replaces qualification 24494, "National Certificate: Fresh Meat Processing", Level 3, 140 credits.

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	9062 Monitor the temperature of food products and their environment for quality control purposes	Level 3	2	Reregistered
Core	119802 Perform quality control practices in a food or sensitive consumer product operation	Level 3	6	Registered
Core	120235 Demonstrate an understanding of the concept of microbiology in a food handling environment	Level 3	6	Registered
Core	120239 Monitor critical control points (CCPs) as an integral part of a hazard analysis critical control point (HACCP) system	Level 3	6	Registered
Core	243023 Identify and deal with factors influencing meat quality	Level 4	10	Draft - Prep for P Comment
Elective	9054 Coat or dip a food product using automated equipment	Level 2	6	Reregistered
Elective	243022 Sort de-boned pork cuts for further processing	Level 2	3	Draft - Prep for P Comment
Elective	8807 Freeze or chill a food product	Level 3	8	Reregistered
Elective	11241 Perform Basic Business Calculations	Level 3	6	Reregistered
Elective	12316 Perform first line maintenance on manufacturing or packing equipment	Level 3	7	Reregistered
Elective	13911 Induct a new member into a team	Level 3	3	Reregistered
Elective	13917 Indicate the role of a team leader ensuring that a team meets an organisation's standards	Level 3	6	Reregistered
Elective	13919 Investigate and explain the structure of a selected workplace or organisation	Level 3	10	Reregistered
Elective	13932 Prepare and process documents for financial and banking processes	Level 3	5	Reregistered
Elective	14665 Interpret current affairs related to a specific business sector	Level 3	10	Reregistered
Elective	114892 Dispatch stock	Level 3	10	Registered
Elective	114896 Receive stock	Level 3	12	Registered
Elective	114900 Sell products to customers in a Wholesale and Retail outlet	Level 3	12	Registered
Elective	114907 Display merchandise visually in a Wholesale and Retail outlet	Level 3	15	Registered
Elective	114941 Apply knowledge of HIV/AIDS to a specific business sector and a workplace	Level 3	4	Registered
Elective	114952 Apply problem-solving techniques to make a decision or solve a problem in a real life context	Level 3	2	Registered
Elective	116940 Use a Graphical User Interface (GUI)-based spreadsheet application to solve a given problem	Level 3	6	Registered
Elective	116942 Use a GUI-based word processor to create merged documents	Level 3	3	Registered
Elective	243009 Sterilise a food or beverage product using retorting equipment	Level 3	12	Draft - Prep for P Comment
Elective	243010 Cure fish or meat products	Level 3	8	Draft - Prep for P Comment

Elective	243015 Split and cut pig carcasses into primal cuts	Level 3	15	Draft - Prep for P Comment
Elective	243017 De-rind and de-bone various pork cuts	Level 3	10	Draft - Prep for P Comment
Elective	243018 Mince fish or meat using automated mincing equipment	Level 3	4	Draft - Prep for P Comment
Elective	243019 Smoke fish or meat products	Level 3	8	Draft - Prep for P Comment
Elective	243020 Salt and dry fish or meat	Level 3	4	Draft - Prep for P Comment
Elective	243026 Break beef sides and de-bone primal beef cuts	Level 3	15	Draft - Prep for P Comment
Elective	243028 Form or fill raw minced fish or meat products using automated equipment	Level 3	5	Draft - Prep for P Comment
Elective	243029 De-bone and cut meat primal cuts into retail cuts	Level 3	10	Draft - Prep for P Comment
Elective	243030 Manufacture emulsified meat products	Level 3	8	Draft - Prep for P Comment
Elective	243032 Break meat carcasses into primal cuts	Level 3	15	Draft - Prep for P Comment
Elective	243033 Cut and de-bone poultry carcasses into portions for meat retailing or further processing	Level 3	6	Draft - Prep for P Comment
Elective	8254 Providing customer service	Level 4	16	Reregistered
Elective	117241 Develop a business plan for a small business	Level 4	5	Registered
Elective	243031 Manufacture fermented meat sausages	Level 4	10	Draft - Prep for P Comment
Fundamental	7456 Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	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
Fundamental	119457 Interpret and use information from texts	Level 3	5	Registered
Fundamental	119465 Write/present/sign texts for a range of communicative contexts	Level 3	5	Registered
Fundamental	119467 Use language and communication in occupational learning programmes	Level 3	5	Registered
Fundamental	119472 Accommodate audience and context needs in oral/signed communication	Level 3	5	Registered



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

1

Sterilise a food or beverage product using retorting equipment

SAQA US ID	UNIT STANDARD TITLE		
243009	Sterilise a food or beverage product using retorting equipment		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	12	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of sterilisation using a retort.

SPECIFIC OUTCOME 2

Prepare a retort for sterilisation.

SPECIFIC OUTCOME 3

Sterilise a food or beverage product in a retort.

SPECIFIC OUTCOME 4

Perform relevant procedures after sterilisation.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

2

Cure fish or meat products

SAQA US ID	UNIT STANDARD TITLE		
243010	Cure fish or meat products		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the curing process for fish or meat products.

SPECIFIC OUTCOME 2

Prepare for curing of fish or meat products.

SPECIFIC OUTCOME 3

Cure fish or meat products.

SPECIFIC OUTCOME 4

Perform relevant procedures after fish or meat curing.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

3

Split and cut pig carcasses into primal cuts

SAQA US ID	UNIT STANDARD TITLE		
243015	Split and cut pig carcasses into primal cuts		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of splitting and cutting of pig carcasses into primal cuts.

SPECIFIC OUTCOME 2

Prepare for splitting and cutting of pig carcasses into primal cuts.

SPECIFIC OUTCOME 3

Split and cut pig carcasses into primal cuts.

SPECIFIC OUTCOME 4

Perform relevant procedures after splitting and cutting.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

4

De-rind and de-bone various pork cuts

SAQA US ID	UNIT STANDARD TITLE		
243017	De-rind and de-bone various pork cuts		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the de-rinding and de-boning of various pork cuts.

SPECIFIC OUTCOME 2

Prepare for de-rinding and de-boning of various pork cuts.

SPECIFIC OUTCOME 3

De-rind and de-bone various pork cuts.

SPECIFIC OUTCOME 4

Perform relevant procedures after de-rinding and de-boning.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

5

Mince fish or meat using automated mincing equipment

SAQA US ID	UNIT STANDARD TITLE		
243018	Mince fish or meat using automated mincing equipment		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of mincing fish or meat.

SPECIFIC OUTCOME 2

Prepare for mincing fish or meat.

SPECIFIC OUTCOME 3

Mince fish or meat.

SPECIFIC OUTCOME 4

Perform relevant procedures after mincing.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

6

Smoke fish or meat products

SAQA US ID	UNIT STANDARD TITLE		
243019	Smoke fish or meat products		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of smoking procedures for fish or meat products.

SPECIFIC OUTCOME 2

Prepare for smoking of fish or meat products.

SPECIFIC OUTCOME 3

Smoke fish or meat products.

SPECIFIC OUTCOME 4

Perform relevant procedures after fish or meat smoking.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

7

Salt and dry fish or meat

SAQA US ID	UNIT STANDARD TITLE		
243020	Salt and dry fish or meat		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	4	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the salting and drying of fish or meat.

SPECIFIC OUTCOME 2

Prepare to salt and dry fish or meat.

SPECIFIC OUTCOME 3

Salt and dry fish or meat.

SPECIFIC OUTCOME 4

Perform relevant procedures after salting and drying.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

8

Sort de-boned pork cuts for further processing

SAQA US ID	UNIT STANDARD TITLE		
243022	Sort de-boned pork cuts for further processing		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	3	Level 2	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of sorting de-boned pork cuts for further processing.

SPECIFIC OUTCOME 2

Prepare for sorting de-boned pork cuts for further processing.

SPECIFIC OUTCOME 3

Sort de-boned pork cuts for further processing.

SPECIFIC OUTCOME 4

Perform relevant procedures after sorting of de-boned pork cuts.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

9

Identify and deal with factors influencing meat quality

SAQA US ID	UNIT STANDARD TITLE		
243023	Identify and deal with factors influencing meat quality		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of meat quality.

SPECIFIC OUTCOME 2

Demonstrate an understanding of the effects of animal slaughtering on meat quality.

SPECIFIC OUTCOME 3

Demonstrate an understanding of the effects of processing and preservation on meat quality.

SPECIFIC OUTCOME 4

Demonstrate an understanding of how the intrinsic factors of the animal and the extrinsic factors involved will influence meat quality.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

10

Break beef sides and de-bone primal beef cuts

SAQA US ID	UNIT STANDARD TITLE		
243026	Break beef sides and de-bone primal beef cuts		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of breaking beef sides and de-boning primal beef cuts.

SPECIFIC OUTCOME 2

Prepare for breaking of beef sides and de-boning of primal beef cuts.

SPECIFIC OUTCOME 3

Break beef sides and de-bone primal beef cuts.

SPECIFIC OUTCOME 4

Perform relevant procedures after breaking and de-boning.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

11

Form or fill raw minced fish or meat products using automated equipment

SAQA US ID	UNIT STANDARD TITLE		
243028	Form or fill raw minced fish or meat products using automated equipment		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	5	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of forming or filling of raw minced fish or meat products.

SPECIFIC OUTCOME 2

Prepare for forming or filling of raw minced fish or meat products.

SPECIFIC OUTCOME 3

Form or fill raw minced fish or meat products.

SPECIFIC OUTCOME 4

Perform relevant procedures after forming or filling of raw minced fish or meat products.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

12

De-bone and cut meat primal cuts into retail cuts

SAQA US ID	UNIT STANDARD TITLE		
243029	De-bone and cut meat primal cuts into retail cuts		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the de-boning and cutting of meat primal cuts into retail cuts.

SPECIFIC OUTCOME 2

Prepare for the de-boning and cutting of meat primal cuts into retail cuts.

SPECIFIC OUTCOME 3

De-bone and cut meat primal cuts into retail cuts.

SPECIFIC OUTCOME 4

Perform relevant procedures after de-boning and cutting.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

13

Manufacture emulsified meat products

SAQA US ID	UNIT STANDARD TITLE		
243030	Manufacture emulsified meat products		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	8	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the manufacturing of emulsified meat products.

SPECIFIC OUTCOME 2

Prepare for emulsification of meat products.

SPECIFIC OUTCOME 3

Emulsify and process meat products.

SPECIFIC OUTCOME 4

Perform relevant procedures after emulsifying.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

14

Manufacture fermented meat sausages

SAQA US ID	UNIT STANDARD TITLE		
243031	Manufacture fermented meat sausages		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	10	Level 4	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of the manufacturing of fermented meat sausages.

SPECIFIC OUTCOME 2

Prepare for fermentation of meat sausages.

SPECIFIC OUTCOME 3

Ferment meat sausages.

SPECIFIC OUTCOME 4

Perform relevant procedures after fermentation.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

15

Break meat carcasses into primal cuts

SAQA US ID	UNIT STANDARD TITLE		
243032	Break meat carcasses into primal cuts		
SGB NAME		ORGANISING FIELD ID	PROVIDER NAME
SGB Food		6	
UNIT STANDARD TYPE		ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION
Regular		Manufacturing, Engineering and Technology	Manufacturing and Assembly
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	15	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of breaking meat sides and carcasses into quarters and primal cuts.

SPECIFIC OUTCOME 2

Prepare for breaking of meat sides and carcasses into quarters and primal cuts.

SPECIFIC OUTCOME 3

Break meat sides and carcasses into quarters and primal cuts.

SPECIFIC OUTCOME 4

Perform relevant procedures after breaking.



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

16

Cut and de-bone poultry carcasses into portions for meat retailing or further processing

SAQA US ID	UNIT STANDARD TITLE		
243033	Cut and de-bone poultry carcasses into portions for meat retailing or further processing		
SGB NAME	ORGANISING FIELD ID	PROVIDER NAME	
SGB Food	6		
UNIT STANDARD TYPE	ORGANISING FIELD DESCRIPTION	SUBFIELD DESCRIPTION	
Regular	Manufacturing, Engineering and Technology	Manufacturing and Assembly	
ABET BAND	CREDITS	NQF LEVEL	UNIT STANDARD TYPE
Undefined	6	Level 3	Regular

SPECIFIC OUTCOME 1

Demonstrate an understanding of cutting and de-boning whole poultry carcasses for fresh and/or frozen meat retailing or for further processing.

SPECIFIC OUTCOME 2

Prepare to cut and de-bone whole poultry carcasses into portions for fresh and/or frozen meat retailing or for further processing.

SPECIFIC OUTCOME 3

Cut and de-bone whole poultry carcasses into portions for fresh and/or frozen meat retailing or for further processing.

SPECIFIC OUTCOME 4

Perform relevant procedures after cutting and de-boning.

IMPORTANT NOTICE

GPW wishes to apologise for any confusion created by our previous notice concerning the method of payment (*herewith the corrected version of the notice*):

ACCEPTABLE PAYMENT FOR SERVICES AND GOODS IN GOVERNMENT PRINTING WORKS

**WITH IMMEDIATE EFFECT ALL
PAYMENTS FOR SERVICES RENDERED AND GOODS DIS-
PATCHED SHOULD BE BY MEANS OF CASH, ELECTRONIC
TRANSFER OR BANK GUARANTEED CHEQUES**

**IMPLEMENTATION OF THIS
CIRCULAR IS WITHOUT EXCEPTION**

**S. MBHELE
EXECUTIVE DIRECTOR: MARKETING**

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NOTICE TO:

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OF

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We look forward to your ongoing support

Contact Person: **Montjane M. Z. (Mr)**

Mobile Phone: 083-640 6121.

Telephone: (012) 334-4653.

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