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**GOVERNMENT NOTICES**

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**SOUTH AFRICAN QUALIFICATIONS AUTHORITY**

No. 42

5 February 2010

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

In accordance with Regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Task Team for

**VISUAL ARTS**

registered by Organising Field 02 – Culture and Arts, 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 full Qualification and Unit Standards can be accessed via the SAQA web-site at [www.saqa.org.za](http://www.saqa.org.za). Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, 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 5 March 2010**. All correspondence should be marked **Standards Setting – Task Team for Visual Arts** and addressed to

The Director: Standards Setting and Development  
SAQA

*Attention: Mr. E. Brown*

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**D. MPHUTHING****ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT**


**SOUTH AFRICAN QUALIFICATIONS AUTHORITY**
**QUALIFICATION:  
Further Education and Training Certificate: Visual Arts**

<b>SAQA QUAL ID</b>	<b>QUALIFICATION TITLE</b>		
78003	Further Education and Training Certificate: Visual Arts		
<b>ORIGINATOR</b>	<b>PROVIDER</b>		
Task Team - Visual Arts			
<b>QUALIFICATION TYPE</b>	<b>FIELD</b>	<b>SUBFIELD</b>	
Further Ed and Training Cert	2 - Culture and Arts	Visual Arts	
<b>ABET BAND</b>	<b>MINIMUM CREDITS</b>	<b>NQF LEVEL</b>	<b>QUAL CLASS</b>
Undefined	156	Level 4	Regular-Unit Stds Based

New NQF Level: NQF Level 04

***This qualification replaces:***

Qual ID	Qualification Title	NQF Level	Min Credits	Replacement Status
74590	Further Education and Training Certificate: Visual Arts	Level 4	140	Will occur as soon as 78003 is registered

**PURPOSE AND RATIONALE OF THE QUALIFICATION**
**Purpose:**

The qualification is intended to equip practicing artists in the visual arts field with a set of skills and knowledge that provide a point of access to professional training and qualifications in the visual arts. The qualification also provides learners with a skills and knowledge base that enables them to assist professional artists, or to be employed under broad supervision in a range of work contexts in the visual arts field.

The qualification represents a vehicle for the recognition of specialist visual arts skills in a field in which specialist training has generally only been addressed at an HET level, and thus excluded the great majority of South Africans from accessing visual arts as a career.

On achieving the qualification, qualified learners are able to generate a body of artwork, drawing on their own ideas and research, supported by intensive engagement with a specialist range of media, technologies and techniques, and a confident grasp of visual language. Qualified learners will be able to prepare an exhibition of a body of their own artwork and critically analyse their own practice and the work of other artists drawing on key concepts from art-critical writings. They will also be able to co-ordinate work on projects involving small teams of artists, and plan for the development of their careers as artists based on an assessment of their skills, interests, external constraints and opportunities.

Qualified learners are capable of:

- Producing a body of artwork.
- Co-ordinating visual arts projects within specified brief.
- Writing critical commentary on artistic practice based on visual and contextual analysis.
- Produce self-marketing material on the basis of research.

**Rationale:**

The qualification provides for the recognition of a set of professional competencies required for learners already operating within the visual arts field at an entry level, including skills related to engagement with the world of work and the visual arts industry.

The qualification may also be of value to arts practitioners who have not had access to recognised education and training opportunities and wish to achieve recognised qualifications in order to access further learning in the Higher Education and Training (HET) band.

Qualifying learners may be employed in an assistant capacity by individual artists, galleries, art materials suppliers, arts and crafts retail outlets and are able to exercise initiative and take on tasks with minimal supervision in these contexts. Qualified learners are able to produce artworks independently in a range of work contexts where visual arts skills are required, for example:

- Participating in a group exhibition.
- Designing and executing a mural or public art project as part of a team working within an externally set brief.
- Designing and executing 2 and 3 dimensional artworks in the theatre and live entertainment industry within an externally set brief.
- Producing artworks on craft-art and interior design projects and products within set specifications.

**RECOGNIZE PREVIOUS LEARNING?**

Y

**LEARNING ASSUMED IN PLACE**

- Mathematical Literacy at NQF Level 3.
- Communication at NQF Level 3.
- Competencies associated with conceptualising, planning and executing visual artworks at NQF Level 3.

**Recognition of Prior Learning:**

This qualification can be achieved wholly, or in part, through recognition of prior learning. Evidence can be presented in a variety of forms, including previous international or local qualifications, reports, testimonials, mentoring, functions performed, portfolios, work records and performance records. As such, evidence should be judged according to the general principles of assessment described in the notes to assessors below. Learners who have met the requirements of any Unit Standard that forms part of this qualification may apply for recognition of prior learning to the relevant Education and Training Quality Assurance body (ETQA). The applicant must be assessed against the specific outcomes and with the assessment criteria for the relevant Unit Standards. A qualification will be awarded should a learner demonstrate that the exit level outcomes of the qualification have been attained.

**Access to the Qualification:**

Access to the qualification is open.

**QUALIFICATION RULES**

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

To be awarded the Qualification learners are required to obtain a minimum of 156 Credits as detailed below.

**Fundamental Component:**

The Fundamental Component consists of Unit Standards in:

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

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

All Unit Standards in the Fundamental Component are compulsory.

**Core Component:**

The Core Component consists of Unit Standards to the value of 80 Credits all of which are compulsory.

**Elective Component:**

Learners are expected to choose a minimum of 20 Credits from the Elective component to achieve the qualification.

**EXIT LEVEL OUTCOMES**

1. Produce a body of artwork.

Range:

- Based on own/self-generated ideas/concepts and exploring and using chosen media, technologies and techniques.

2. Co-ordinate visual arts projects within a specified brief.

Range:

- Visual arts projects includes small-scale projects in commercial and/or social development contexts involving a visual arts component, such as exhibitions, murals, carnivals, theatre productions, projects in schools, public awareness campaigns.

3. Write critical commentary on own artwork based on visual and contextual analysis.

4. Produce self-marketing material on the basis of research.

**Critical Cross-Field Outcomes:**

- Identify and solve problems in which responses to problems show that such critical and creative thinking has been used to foresee possible interruptions and make responsible decisions in relation to art briefs.
- Work effectively with others as a member of a team, group, organisation or community when developing a visual arts practice.
- Demonstrate respect and sensitivity in the process of creating and interpreting visual culture.
- Collect, analyse, organise and critically evaluate the information regarding the adjusting and adapting of the Arts product as well as establishing a new art practice.
- Developing the product and using relevant tools, materials and technology effectively and critically, showing responsibility towards the environment and taking into consideration relevant health and safety practices.
- Demonstrate an understanding of the world as a set of related systems by building linkages with other art practices and practitioners and recognising that problem-solving contexts do not exist in isolation.

**ASSOCIATED ASSESSMENT CRITERIA**

## Associated Assessment Criteria for Exit Level Outcome 1:

- A set of linked or related ideas for artworks from gathered information, visual material and references are generated using a range of methods.

## Range:

- Methods can include brainstorming, mind mapping, free association, storyboards.
- Visual language is applied in the planning and execution of a body of artwork.
- Preparatory work done includes extensive investigation of particular art elements and design principles in the design and realisation of artworks.

## Range:

- Art elements include colour, line, tone, shape, form, texture, space, composition; design principles include balance, unity, variety, emphasis, harmony, etc.
- A body of artwork is produced by exploring and using chosen media, technologies and techniques.
- The choice and application of media, technologies and techniques is appropriate to the idea or concept for a body of artwork.
- The steps and processes involved in the use of specified media, technologies and techniques have been executed according to self-determined requirements.
- Tools and materials have been used in a safe and responsible manner, in accordance with given product specifications, and with consideration given to their recycling/reuse.
- Preparatory and final work demonstrates experimentation, exploration and proficiency in a specialised range of 2d and/or 3d media, technologies and techniques.

## Range:

- Experimentation and exploration include set technical exercises and studies; specialised range includes dry media, wet media, sculpture, 3d construction, printmaking, lens-based media, computer-based/new media or any combination of these.
- Final execution of a body of artwork demonstrates resolution of preparatory investigations and continuity and development across artworks in the context of a self-determined brief.

## Associated Assessment Criteria for Exit Level Outcome 2:

- Business opportunities within the visual arts field are identified and evaluated in terms of its potential viability.
- The shift in paradigm from a job-seeking to business opportunity seeking is evaluated to determine the impact it has on entrepreneurship.
- Art practice financing sources and opportunities are evaluated in terms of potential viability for business opportunities.
- Leadership and management principles and techniques are applied in order to enhance visual art practice.
- The requirements of a given project brief are identified and assessed in terms of budget, schedule and human resource requirements.
- Roles and responsibilities of different team members are managed within externally set framework.
- Project is implemented against agreed schedule specifying allocation of human resources, time and resources to different activities.
- Legal implications of verbal and written contracts with team members are explained.

## Range:

- Legal implications includes issues of liability, indemnity and copyright.
- Own role within project team is evaluated with reference to strengths and weaknesses and consideration of team dynamics.
- Administrative requirements of project co-ordination are addressed within agreed framework.

## Range:

- Agreed framework includes record-keeping, reporting and invoicing.
- Prepare and document artworks for exhibition.

- Selection, placement and preparation of artworks is appropriate to venue in terms of spatial layout, inter-relationship between artworks, and visual/physical qualities of space and installation methods are appropriate to the nature of space and body of work.

Range:

- Preparation includes 2d and 3d mounting and presentation techniques, etc.
- A range of supplementary and contextual exhibition material is provided and appropriately presented.

Range:

- Supplementary and contextual material: artists statement or concept document, labels, price list, etc.
- Visual documentation of exhibition and installation views is created using digital or analogue photographic technology.

Associated Assessment Criteria for Exit Level Outcome 3:

- Art critical writings relevant to own and others artwork are identified and collated.

Range:

- Art critical writings include commentaries and reviews included in art journals and monographs on artists.
- Key critical concepts from art critical writings are identified and appropriately applied in discussion of own and others work.

Range:

- Appropriately refers to the extent to which referenced ideas are relevant to chosen artworks.
- Own and others work is discussed with reference to relationship between intentions and use of precedents, components of personal style/idiom, selection and use of iconography, visual language and materials.
- Contemporary and historical precedents are identified and assessed in own and others work.
- The social context for own and others artwork is described and discussed with reference to the ways in which context may shape both the production and reception of artworks.
- Use of terminology is consistent with standard practices and definitions in visual arts field.
- Referencing of critical ideas, opinions and perspectives from other sources is correct and consistent with standard practice in field.

Associated Assessment Criteria for Exit Level Outcome 4:

- Potential target groups for marketing material are identified based on consideration of market for artistic products and services associated with own skills-set.
- Target group interests and expectations are identified based on research.

Range:

- Research includes informal and open-ended interviews, gathering of comparative material.
- Framework for personal branding is developed on the basis of consideration of key elements within own artistic practice and target group expectations and interests.

Range:

- Framework for personal branding includes visual material and written material linked to key concepts; key elements within own artistic practice includes characteristic concerns, themes, motifs, materials, techniques and working processes.
- Marketing material is designed, produced and packaged based on personal brand.

Range:

- Marketing material includes but is not limited to: business cards, flyers, Curriculum Vitae, artist statements, portfolio of work.
- Review and interpret documents and communicate orally and in writing with internal and external clients through two languages in a visual arts practice.

Range:

- Identifying and sourcing information relating to context of art brief, comparing and describing interpretations of images and objects, preparing and presenting commentaries contextualising



images and objects, interpreting primary and secondary sources of information relating to the current legislation relating to the visual arts field of practice.

#### Integrated Assessment:

The assessment criteria in the unit standards are performance-based, assessing applied competence, rather than only underpinning knowledge, or only skills. The Critical Cross-Field Outcomes are also achieved in the unit standards. In addition to the competence assessed to achieve the unit standards, learners must demonstrate that they can achieve the outcomes in an integrated manner, dealing effectively with different and random demands related to occupational and learning contexts, to qualify, and assessment approaches used should be appropriate for assessing applied competence. Integrated assessment is meaningful if there are clear relationships between the purpose statement, exit level outcomes and integrated assessment of this qualification.

Learners who qualify must be able to integrate concepts, ideas and behaviours across unit standards to achieve the purpose of the qualification. Combinations of practical, applied, foundational and reflexive competencies should be assessed. Evidence (as specified in the associated assessment criteria) is required that the learner is able to achieve the exit level outcomes of the qualification as a whole and in an integrated way, and thus its purpose, at the time of the award of the qualification. Integrated assessment should include observable performance as well as the quality of thinking behind such performance.

Assessors must assess and give credit for the evidence of learning that has already been acquired through formal, informal and non-formal learning and work experience, as RPL assessment can be applied subject to the rules and criteria of the relevant ETQA.

#### **INTERNATIONAL COMPARABILITY**

##### Saudi Arabia:

The Diploma of Visual Arts, a two-year programme, is accredited by the General Organization of Technical Education and Vocational Training of Saudi Arabia, with Box Hill Institute as the educational partner (Australia). The course offered at the Arts and Skills Institute, in Riyadh consists of the following components:

- Copper enamelling: Make art pieces from hard cooper sheets, using a variety of special glass materials.
- Hand building with clay: Traditional techniques used in making clay vessels; form, texture refine and decorate clay, fired in a kiln.
- Art History and culture: Art history and culture through visual examples.
- Digital Photography.
- Editing Digital Photography using Photoshop.
- Introduction to Drawing and Painting.
- Design elements and principals.
- Drawing Fundamentals using different media.
- Life Drawing: Observational Drawing Using a Costumed Model; study of movement and gesture.
- Mixed Media: Experimental methods for producing artwork using a variety of materials and techniques in combinations.
- Introduction to the basics of Oil Painting.
- Creative Textiles (silk and wool fibres).
- Sculpture: Use a variety of materials to develop basic sculptural forms; dyeing, felting and stitching.
- Making jewellery: Simple materials and techniques designing, creating and assembling jewellery.
- Colour theory and mixing techniques.

- Art Teaching.

#### Swaziland:

In Swaziland, at the Waterford Kamhlaba United World College of Southern Africa, an Art and Design subject is offered as part of an equivalent level programme. The aims of this course are to stimulate, encourage and develop an interest in, and a critical awareness of environments and cultures; an ability to identify and solve problems in visual and tactile form; confidence, enthusiasm and a sense of achievement in the practice of Art and Design; the technical competence and manipulative skills necessary to form, compose and communicate in two and three dimensions; an ability to record from direct observation and personal experience; knowledge of a working vocabulary relevant to the subject; experimentation and innovation through the inventive use of material and techniques; the ability to organise and relate abstract ideas to practical outcomes; intuitive and imaginative responses showing critical and analytical faculties. This includes:

- Recognise form and structure.
- Appreciate space and spatial relationships in two and three dimensions.
- Use chosen media competently, showing clarity of intention.
- Handle tone and/or colours in a controlled and intentional manner.
- Express ideas visually.
- Respond in an individual and personal way.
- Demonstrate quality of ideas and interpretation rather than literal description of a theme.
- Make aesthetic judgements.
- Impress with personal vision and commitment, and make personal steps towards maturity.
- Research appropriate resources.
- Assess a design problem and arrive at an appropriate solution.
- Show the development of ideas in a series of rough layouts or experiments which lead to a final solution.
- Draw or paint a subject from a choice which will include the human figure, natural and man-made objects or exterior scenes.
- Organise a pictorial composition.

#### Namibia:

At the Windhoek International School, the University of Cambridge International Examinations are offered, including general qualifications and vocational qualifications. At the level of this South African qualification, the CIE (Cambridge International Examinations) upper secondary qualification applies.

The qualification includes an Art and Design subject area that requires that learners are able to show:

- An individual, sensitive and creative response to a stimulus; to develop an idea, theme or subject.
- Independence in concept and execution.
- Select and control materials, processes and techniques in an informed and disciplined way appropriate to an intention.
- Select and record analytically from direct observation and personal experience.
- Use and compose formal elements as appropriate (contour, shape, colour/tone, texture, structure and the relationships between form and space).
- Select and communicate information relevant to an idea, subject or theme and evaluate this in a systematic way.
- Make critical judgements and show a developing appreciation and cultural awareness through personal ideas and images.

One area of specialisation is required such as:

- Painting and Related Media.
- Textiles.
- Ceramics.
- Sculpture.
- Graphic Design.
- Fashion Design.
- Print Making.
- Film and Video.
- Photography.

For Painting and Related Media, for example, learners may use oil colour, water-colour, acrylic, gouache, powder or poster paint, coloured inks, pen and wash, pastels, oil pastels, coloured pencils. They may combine these media or use them in conjunction with other (e.g. collage). Work produced may include still life, portraiture, landscape studies or abstract and figurative compositions. It may be either expressive or interpretative in content, or it may seek to record a response to the visual world. Learners are required to have a broad understanding of the history of painting and other channels of visual communications and they should use the resources of museums, galleries, local collections or exhibitions to make a first-hand study of paintings wherever possible.

All these requirements are met in the South African, NQF Level 3 Visual Arts Qualification.

**Denmark:**

At technical and commercial upper secondary level in Denmark, the VET programmes are offered based on a personal education plan, drawn up by a learner with the assistance of a teacher from a vocational college that includes a pathway from unskilled to skilled worker. The curriculum consists of four types of subjects.

Basic, area, special and optional subjects, are selected and put together by the trade committee. The VET programmes design compares well with this South African qualification: Basic subjects address broad vocational knowledge and skills, personal development, comprehension of different societal trends; area subjects are common to one or more VET programmes (Fundamental and Elective components of the South African qualification); special subjects are specific to a single VET qualification and require specific vocational competency (Core and Elective components of the South African qualification); optional subjects address the interests of learners (Elective component of the South African qualification).

**Germany:**

Education standards for Visual Arts in Germany consists of the following components:

- Compare examples of art works.
- Recognise formal design features and different effects and statements.
- The relationship of form and shape and using their effects.
- Digital image-editing software.
- Knowledge of aspects of the history of art (artists, works and relationships; works of eras).
- Structure knowledge and present independently.
- Use materials and items in an open process, edited or in new relationships.
- Collect, select, and transform pictures, collections or objects with new meanings.
- The relationship between sculpture and space.
- Use shapes in objects with everyday reference.
- Dependencies and conditions for the development process of a product.
- Develop a product from idea to model.

- Investigate practical, aesthetic, symbolic and ecological aspects of art.
- Artistic work process application (inc. new form and artistic statement).

Elective:

Design; photographic or cinematic techniques; digital image-editing software; manual printing techniques; building and construction practices.

The main difference between the German standards and this South African qualification is the content of the German elective component, which includes design, photographic or cinematic techniques, and building and construction practices.

Greece:

In Greece, an example of an equivalent programme is offered at the Tutors Panaretos Educational Centre.

Subjects include:

- Painting and Drawing.
- Print making.
- Photography as Fine Art.
- Video art.
- Alternative Media.
- Installation art.
- Sculpture.
- History of Art.
- Textures, Surfaces and Techniques.

All aspects are also addressed in this South African qualification, except Photography as Fine Art, and Video art.

Visual Arts qualifications in the Netherlands and Turkey are mostly at higher levels, and in Switzerland adult learner curricula at an equivalent level include Visual Arts as one subject only.

Italy:

In Italy, at an equivalent level mostly short courses are offered.

At the Accademia D'Arte a four-week course is offered and covers subjects such as:

- Painting and Drawing.
- Painting Ancient techniques.
- Painting Contemporary techniques.
- Photography.
- Digital Photography.
- Art History.
- Sculpture and Ceramic.
- Mural Painting (Fresco).
- Mosaic.
- Visual Arts.
- Art and Italian Language.

United Kingdom:

In the United Kingdom, Level 3 qualifications as well as Vocational qualifications are awarded. Equivalent level programmes include:

AS (Advanced Subsidiary) and A (Advanced) Level qualifications that focus on traditional study skills. They normally take two years to complete full-time, although they're also available to study part-time.

AS and A2 level qualifications and Vocational qualifications with a fine art endorsement, such as GCSE (General Certificate of Secondary Education) A/AS in art and design, GCE A/AS in history of art, GCE A/AS in history of art and design, GCE A/AS in applied art and design, and GCE A/AS in applied art and design (double award).

These qualifications encourage learners to develop in their chosen art form, to review the work of others, to make use of arts resources in their communities, to share their skills and to run arts projects with others. They explore future options in the arts, including training courses and jobs. The qualifications provide the learner with the opportunity to work within a specific area of art and design.

United States of America:

In the United States of America, state-specific standards exist for Visual Arts curriculum at an equivalent level, and the aspects included are also addressed in the South African qualification.

At Madison Wisconsin, the Visual Arts Qualification includes:

- 2D Design.
- Drawing studio.
- Drawing Painting studio.
- Printmaking.
- 3D Design.
- Clay.
- Photography.
- Art, Video and Computer Imaging.
- Studio Techniques.
- Portfolio Preparation.

The programme requires achievement in at least one art form. The total notional hours for the programme are the equivalent of approximately 15 credits.

In California public schools, Visual and Performing Arts Framework defines the four arts components (visual arts, theatre, music, dance) and provides guidelines for planning, delivering, and assessing a comprehensive arts education program for the equivalent of the South African NQF Levels 1 to 4.

The California Visual Arts curriculum for the equivalent of the South African NQF Level 4 requires:

- Artistic perception: Processing, analysing, and responding to sensory information through the language and skills unique to the visual arts-perceive and respond to works of art, objects in nature, events, and the environment; use the vocabulary of the visual arts to express their observations.
- Creative expression: Creating, performing, and participating in the visual arts-apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art.
- Historical and cultural context understanding the historical contributions and cultural dimensions of the visual arts-analyse the role and development of the visual arts in past and

present cultures throughout the world, noting human diversity as it relates to the visual arts and artists.

- **Aesthetic valuing:** Responding to, analysing, and making judgments about works in the visual arts-analyse, assess, and derive meaning from works of art, including their own, according to the elements of art, the principles of design, and aesthetic qualities.
- **Connections, relationships, applications:** Connecting and applying what is learned in the visual arts to other art forms and subject areas and to careers-apply what they learn in the visual arts across subject areas; develop competencies and creative skills in problem solving, communication, and management of time and resources that contribute to lifelong learning and career skills; learn about careers in and related to the visual arts.

Conclusion:

Overall, this South African qualification compares most favourably with those on offer in the United Kingdom, Swaziland, Namibia and Denmark in terms of content and design. The main difference lies in the inclusion of Photography, and integration of Design courses in most countries. In South Africa there is a FETC: Photography Qualification dedicated to this art form.

### **ARTICULATION OPTIONS**

This Qualification articulates horizontally with the following Qualifications:

- ID 65051: Further Education and Training Certificate: Arts and Culture Development Support, NQF Level 4, 147 Credits.
- ID 48809: Further Education and Training Certificate: Craft Enterprise, NQF Level 4, 161 Credits.
- ID 48818: Further Education and Training Certificate: Arts and Culture Administration, NQF Level 4, 165 Credits.
- ID 48808: Further Education and Training Certificate: Performing Arts, NQF Level 4, 150 Credits.
- ID 49127: Further Education and Training Certificate: Design Foundation, NQF Level 4, 141 Credits.
- ID 22104: Introductory Certificate: Culture and Art: Design Studies, NQF Level 4, 120 Credits.

This Qualification articulates vertically with the following Qualifications:

- ID 60509: National Certificate: Design Techniques, NQF Level 5, 121 Credits.
- ID 65030: National Certificate: Arts and Culture Development Management, NQF Level 5, 139 Credits.
- ID 49119: National Certificate: Craft Operational Management, NQF Level 5, 145 Credits.
- ID 57612: National Certificate: Arts and Culture Enterprise, NQF Level 5, 161 Credits.
- ID 22101: National Diploma: Culture and Art: Design Studies, NQF Level 5, 240 Credits.

### **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 moderation guideline detailed in "Qualification Assessor Criteria.
- Moderation must include both internal and external moderation of assessments at exit points of the Qualification, unless ETQA policies specifies 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.

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

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

- Be registered as an assessor with the relevant ETQA or an ETQA that has a memorandum of understanding with the relevant ETQA.
- Be in possession of a relevant Qualification at NQF Level 5 or higher.

#### **NOTES**

This qualification replaces qualification 74590, "Further Education and Training Certificate: Visual Arts", Level 4, 140 credits.

#### **UNIT STANDARDS**

	<b>ID</b>	<b>UNIT STANDARD TITLE</b>	<b>LEVEL</b>	<b>CREDITS</b>
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	Level 3	5
Fundamental	119457	Interpret and use information from texts	Level 3	5
Fundamental	119467	Use language and communication in occupational learning programmes	Level 3	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	Level 3	5
Fundamental	9015	Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on life related problems	Level 4	6
Fundamental	119462	Engage in sustained oral/signed communication and evaluate spoken/signed texts	Level 4	5
Fundamental	119469	Read/view, analyse and respond to a variety of texts	Level 4	5
Fundamental	9016	Represent analyse and calculate shape and motion in 2- and 3-dimensional space in different contexts	Level 4	4
Fundamental	7468	Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	Level 4	6
Fundamental	12153	Use the writing process to compose texts required in the business environment	Level 4	5
Fundamental	119459	Write/present/sign for a wide range of contexts	Level 4	5
Core	117508	Conceptualise and plan a design	Level 4	15
Core	376340	Determine price and fee structure for visual arts practice	Level 4	4
Core	376302	Execute and review artwork based on independent inquiry	Level 4	10
Core	376283	Generate observational and conceptual studies for artworks	Level 4	10
Core	117509	Interpret and respond to brief	Level 4	5
Core	376305	Investigate contexts for production and reception of images and objects	Level 4	8
Core	376306	Prepare and a present portfolio of artwork	Level 4	4
Core	376321	Produce dry-point prints	Level 4	4
Core	376301	Produce multiple-colour relief prints	Level 4	5
Core	376320	Produce paintings through exploration of a variety of painting media, materials and painting conventions	Level 4	10
Core	376303	Produce screen prints	Level 4	5
Elective	244611	Apply problem-solving techniques to make a decision or solve a problem in a real life context	Level 3	2
Elective	117171	Manage time effectively to enhance productivity and enable a balanced lifestyle	Level 3	2
Elective	123465	Measure and plan own performance and behaviour in line with roles and responsibilities in a project team	Level 3	5
Elective	263358	Demonstrate an understanding of an entrepreneurial profile	Level 4	5
Elective	114552	Design aspects for performances	Level 4	10

	<b>ID</b>	<b>UNIT STANDARD TITLE</b>	<b>LEVEL</b>	<b>CREDITS</b>
Elective	114519	Participate in the research and generation of ideas for exhibition concepts	Level 4	5
Elective	263024	Plan and produce two dimensional (2D) Computer Aided Drawings (CAD)	Level 4	15
Elective	376300	Produce sculptural work	Level 4	15
Elective	376304	Produce sculptural work employing additive and shaping processes, materials and tools	Level 4	15
Elective	117510	Use elements and principles of 2D and 3D design	Level 4	10
Elective	120379	Work as a project team member	Level 4	8

**LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION****None**





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Generate observational and conceptual studies for artworks***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376283	Generate observational and conceptual studies for artworks		
<b>ORIGINATOR</b>	<b>PROVIDER</b>		
Task Team - Visual Arts			
<b>FIELD</b>	<b>SUBFIELD</b>		
2 - Culture and Arts	Visual Arts		
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	10

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Develop perceptual skills.

**SPECIFIC OUTCOME 2**

Produce observational studies for artworks.

**SPECIFIC OUTCOME 3**

Produce conceptual studies for artworks

**SPECIFIC OUTCOME 4**

Produce combined drawing studies for artworks.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	78003	Further Education and Training Certificate: Visual Arts	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Produce sculptural work***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376300	Produce sculptural work		
<b>ORIGINATOR</b>	<b>PROVIDER</b>		
Task Team - Visual Arts			
<b>FIELD</b>	<b>SUBFIELD</b>		
2 - Culture and Arts	Visual Arts		
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	15

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Develop designs for sculptural works using 3-dimensional construction processes.

**SPECIFIC OUTCOME 2**

Prepare and maintain materials and equipment for 3-dimensional construction processes.

**SPECIFIC OUTCOME 3**

Prepare supports/armatures for sculptural work employing 3-dimensional construction processes.

**SPECIFIC OUTCOME 4**

Produce a sequence of finished works employing 3-dimensional construction processes.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Elective	78003	Further Education and Training Certificate: Visual Arts	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Produce multiple-colour relief prints***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376301	Produce multiple-colour relief prints		
<b>ORIGINATOR</b>	<b>PROVIDER</b>		
Task Team - Visual Arts			
<b>FIELD</b>	<b>SUBFIELD</b>		
2 - Culture and Arts	Visual Arts		
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	5

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Plan and develop an image/design for multiple-colour relief printmaking.

**SPECIFIC OUTCOME 2**

Prepare and incise print surface(s) for multiple-colour relief printmaking.

**SPECIFIC OUTCOME 3**

Develop image through a multi-colour relief printing process.

**SPECIFIC OUTCOME 4**

Produce edition of multi-colour relief prints.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	78003	Further Education and Training Certificate: Visual Arts	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Execute and review artwork based on independent inquiry***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376302	Execute and review artwork based on independent inquiry		
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
Task Team - Visual Arts			
<b>FIELD</b>	<b>SUBFIELD</b>		
2 - Culture and Arts	Visual Arts		
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	10

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Prepare for the execution of artworks.

**SPECIFIC OUTCOME 2**

Execute artworks.

**SPECIFIC OUTCOME 3**

Review artworks.

**SPECIFIC OUTCOME 4**

Refine artworks.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	78003	Further Education and Training Certificate: Visual Arts	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Produce screen prints***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376303	Produce screen prints		
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
Task Team - Visual Arts			
<b>FIELD</b>		<b>SUBFIELD</b>	
2 - Culture and Arts		Visual Arts	
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	5

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Plan and develop an image/design for screen printing.

**SPECIFIC OUTCOME 2**

Prepare and cut screens for screen printing.

**SPECIFIC OUTCOME 3**

Develop images through screen printing process.

**SPECIFIC OUTCOME 4**

Produce an edition of screen prints.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	78003	Further Education and Training Certificate: Visual Arts	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:**

***Produce sculptural work employing additive and shaping processes, materials and tools***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376304	Produce sculptural work employing additive and shaping processes, materials and tools		
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
Task Team - Visual Arts			
<b>FIELD</b>		<b>SUBFIELD</b>	
2 - Culture and Arts		Visual Arts	
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	15

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Develop designs for sculptural works using additive and shaping processes.

**SPECIFIC OUTCOME 2**

Prepare and maintain materials and equipment for additive and shaping processes.

**SPECIFIC OUTCOME 3**

Prepare supports/armatures for sculptural work employing additive and shaping processes.

**SPECIFIC OUTCOME 4**

Produce a sequence of finished works employing additive and shaping processes.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Elective	78003	Further Education and Training Certificate: Visual Arts	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Investigate contexts for production and reception of images and objects***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376305	Investigate contexts for production and reception of images and objects		
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
Task Team - Visual Arts			
<b>FIELD</b>		<b>SUBFIELD</b>	
2 - Culture and Arts		Visual Arts	
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	8

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Identify and source information relating to the context of production.

**SPECIFIC OUTCOME 2**

Examine and compare information on contexts for production and use of images and objects.

**SPECIFIC OUTCOME 3**

Identify and source information on contexts for reception of images and objects.

**SPECIFIC OUTCOME 4**

Examine and compare information on context for reception or usage.

**SPECIFIC OUTCOME 5**

Prepare and present written commentaries contextualising artworks.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	78003	Further Education and Training Certificate: Visual Arts	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Prepare and a present portfolio of artwork***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376306	Prepare and a present portfolio of artwork		
<b>ORIGINATOR</b>			<b>PROVIDER</b>
Task Team - Visual Arts			
<b>FIELD</b>	<b>SUBFIELD</b>		
2 - Culture and Arts	Visual Arts		
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Identify requirements for artwork portfolios.

**SPECIFIC OUTCOME 2**

Design formats for portfolios of artwork.

**SPECIFIC OUTCOME 3**

Compile artwork portfolios.

**SPECIFIC OUTCOME 4**

Present portfolios of artwork to selected target group/audience.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	78003	Further Education and Training Certificate: Visual Arts	Level 4





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:**

***Produce paintings through exploration of a variety of painting media, materials and painting conventions***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376320	Produce paintings through exploration of a variety of painting media, materials and painting conventions		
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
Task Team - Visual Arts			
<b>FIELD</b>		<b>SUBFIELD</b>	
2 - Culture and Arts		Visual Arts	
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	10

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Select and prepare a variety of surfaces for application of painting media and materials.

**SPECIFIC OUTCOME 2**

Explore application of a variety of painting media and tools to surface.

**SPECIFIC OUTCOME 3**

Explore visual conventions, genres and idioms applicable to painting media.

**SPECIFIC OUTCOME 4**

Produce and present finished works employing painting media.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	78003	Further Education and Training Certificate: Visual Arts	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Produce dry-point prints***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376321	Produce dry-point prints		
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
Task Team - Visual Arts			
<b>FIELD</b>		<b>SUBFIELD</b>	
2 - Culture and Arts		Visual Arts	
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Develop an image/design for dry-point printmaking.

**SPECIFIC OUTCOME 2**

Prepare and mark print surface for dry-point printmaking.

**SPECIFIC OUTCOME 3**

Develop images through dry-point printing process.

**SPECIFIC OUTCOME 4**

Produce editions of dry-point prints.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	78003	Further Education and Training Certificate: Visual Arts	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Determine price and fee structure for visual arts practice*

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376340	Determine price and fee structure for visual arts practice		
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
Task Team - Visual Arts			
<b>FIELD</b>		<b>SUBFIELD</b>	
2 - Culture and Arts		Visual Arts	
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Determine financial objectives.

**SPECIFIC OUTCOME 2**

Project optimal earnings as basis for fees and pricing.

**SPECIFIC OUTCOME 3**

Determine optimal fees.

**SPECIFIC OUTCOME 4**

Determine optimal pricing for artworks based on input costs and optimal fees.

**SPECIFIC OUTCOME 5**

Determine market-related fee structure and pricing.

**SPECIFIC OUTCOME 6**

Review fee structure and pricing.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	78003	Further Education and Training Certificate: Visual Arts	Level 4



### SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with Regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Task Team for

#### SOVEREIGNTY OF THE STATE

registered by Organising Field 08 – Law, Military Science and Security, 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 full Qualification and Unit Standards can be accessed via the SAQA web-site at [www.saq.org.za](http://www.saq.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 5 March 2010**. All correspondence should be marked **Standards Setting – Task Team for Sovereignty of the State** and addressed to

The Director: Standards Setting and Development  
SAQA

*Attention: Mr. E. Brown*

Postnet Suite 248

Private Bag X06

Waterkloof

0145

or faxed to 012 – 431-5144

e-mail: [ebrown@saqa.org.za](mailto:ebrown@saqa.org.za)

D. MPHUTHING

ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**QUALIFICATION:****Further Education and Training Certificate: Engineering Watchkeeping**

SAQA QUAL ID	QUALIFICATION TITLE		
77983	Further Education and Training Certificate: Engineering Watchkeeping		
ORIGINATOR	PROVIDER		
TT - Sovereignty of the State			
QUALIFICATION TYPE	FIELD	SUBFIELD	
Further Ed and Training Cert	8 - Law, Military Science and Security	Sovereignty of the State	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	122	Level 4	Regular-Unit Stds Based

New NQF Level: NQF Level 04

***This qualification does not replace any other qualification and is not replaced by another qualification.***

**PURPOSE AND RATIONALE OF THE QUALIFICATION**

Purpose:

This qualification is aimed at persons who work or intend to work in the Navy or Maritime sector as an Engineering Watchkeeper, and who require essential skills in maritime engineering supervision and watchkeeping. Learners may progress from this qualification to become a Marine Engineering Officer (Navy), a Weapons Engineering Officer (Navy), or Chief Engineer in the commercial maritime sector. This qualification follows on from SAN training in Engineering Assistance at NQF Level 3 and leads to the National Certificate: Marine Engineering at NQF Level 5.

The qualification will provide professional status to persons who practise within the discipline. Learners in possession of this qualification will be able to:

- Carry out specified scheduled maintenance activities on board a ship.
- Carry out watch keeping duties in the engine room as chief of the watch.
- Combat fire and flood while on watch.
- Conduct engineering trials on a vessel.
- Conduct fabrication and repair operations on ships.
- Conduct personnel management functions for a team.
- Dismantle, repair and assemble shipboard plant.
- Ensure compliance with maritime pollution prevention requirements.
- Implement safe work procedures for engineering work on a naval vessel.
- Operate equipment to provide electrical power to a vessel.
- Operate propulsion machinery and associated control systems.
- Operate pumping and associated control systems.

Engineering Watchkeepers will generally carry out their role within the context of:

- A marine environment.
- Adequately equipped and serviceable vessels.

- Coherent and interdependent relationships.

**Rationale:**

The South African Navy (SAN) wishes to provide for the recognition of key clusters of supervisory, management and technical competence which coincide with SAN licensing requirements.

The majority of the candidates for this qualification are likely to have completed the introductory courses to maritime engineering, and wish to progress to engineering watchkeeping within a naval context. This qualification will give them the opportunity to develop and balance their practical skills with the essential knowledge needed to earn a formal qualification in Engineering Watchkeeping, without formal education becoming an impassable barrier.

There is a critical need in the SAN to identify people from different demographic and gender backgrounds who have a sound foundation in basic engineering skills, and who have completed learning and been recognised as competent as an engineering rating. This qualification will provide for them the opportunity to develop the specific skills demanded of those who supervise engineering watchkeeping within a safety conscious and highly regulated sector.

A decision has also been made that the SAN must comply with, or exceed, international marine engineering standards. Traditionally, SAN training has been of a high standard in defined areas, but has not always produced people who meet international maritime licensing requirements such as the International Maritime Organisation (IMO) Standards of Training, Certification and Watchkeeping (STCW), and SAMSA (South African Maritime Safety Association) Codes and conventions. The qualification recognises and makes provision for these additional requirements.

In addition, the policy of the Defence Force, as part of a broader skills development process in South Africa, is to provide Defence Force members with skills, knowledge and competencies that are transferable to sectors outside the Defence Force so as to enable members to obtain employment when they leave the SANDF. This qualification will not only provide the learner with the competencies required to operate effectively within the SAN, but also provide him/her with skills that are usable in the merchant marine as well as in other commercial sectors.

In summary, the purpose of the qualification and its unit standards is to:

- Describe the standard required for competent performance in the SAN and the international arena as a naval engineering watchkeeper.
- Provide a framework of learning and competencies for that would allow for Recognition of Prior Learning (RPL).
- Provide access and progression via a coherent learning pathway for engineering personnel wishing to follow a career in marine engineering.
- Provide access to candidates formerly denied opportunities for a career in maritime defence, which in turn promotes personal (and thus national) skills development.

The maritime industry, and in particular the South African Navy, have a need to keep watch over engineering activities.

The majority of the candidates for this qualification are likely to be working in the South African Navy, with the knowledge gained in this qualification being directly applicable to a naval engineering watchkeeper. Experienced engineering ratings and/or watchkeepers are also in general demand in the commercial maritime industry, and career opportunities include container vessels and fishing.

This occupation is highly regulated through international organisations and agreements and thus has a major influence on the construct of this qualification.

**RECOGNIZE PREVIOUS LEARNING?**

Y

**LEARNING ASSUMED IN PLACE**

- Mathematics at NQF Level 3.
- Communication 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 defined exit level outcomes and/or individual unit standards.

Evidence can be presented in various ways, including international and/or previous local qualifications, products, reports, testimonials mentioning functions performed, work records, portfolios, videos of practice and performance records.

All such evidence will be judged in accordance with the general principles of assessment described in this document and the requirements for integrated assessment.

Access to the Qualification:

Learners applying to enrol for this qualification need to comply with given medical requirements in order to perform the activities and functions of a watchkeeper on board a ship. Learners who do not comply with these medical requirements may find difficulty in achieving many of the unit standards associated with this qualification.

**QUALIFICATION RULES**

This Qualification consists of a minimum of 122 Credits made up as follows:

Fundamental:

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

To be awarded the Qualification learners are required to obtain a minimum of 122 credits as detailed below.

Fundamental Component:

- The Fundamental Component consists of Unit Standards in:
  - Mathematical Literacy at NQF Level 4 to the value of 16 Credits.
  - Communication at NQF Level 4 in a First South African Language to the value of 20 Credits.
  - Communication in a Second South African Language at NQF Level 3 to the value of 20 Credits.

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

Mathematical Literacy is defined as the ability to apply basic mathematics within a variety of real life contexts.

All Unit Standards in the Fundamental Component are compulsory.

Core Component:

- The Core Component consists of Unit Standards to the value of 56 Credits all of which are compulsory.

**Elective Component:**

- Learners must select additional Unit Standards from the Elective component to achieve a minimum of 10 Credits.

**EXIT LEVEL OUTCOMES**

1. Execute watchkeeping duties.
2. Use tools effectively for maintenance and repair.
3. Operate shipboard machinery and equipment.
4. Carry out planned and corrective maintenance.
5. Respond to emergencies as an engineering watchkeeper.

**Critical Cross-Field Outcomes:**

This qualification addresses the following Critical Cross-Field Outcomes, as detailed in the unit standards:

- Identifying and solving problems in which responses indicate that responsible decisions using critical and creative thinking have been made:
  - The function requires critical thought, problem-solving and responsible decision making across a wide range of technical and personnel situations and contexts. The function requires identifying deviations from the norm, identification of the cause, and selection of appropriate responses to solve problems.
- Working effectively with others as a member of a team, group, organisation or community:
  - The operator is part of an engineering team as well as a damage control team. As watchkeeper, the operator directs the activities of others and achieves aims and objectives by these means. The operator is also part of the broader picture of the ship's company and plays a part within that greater whole.
- Organising and managing oneself and one's activities responsibly and effectively:
  - Naval vessels are complex entities and there are a variety of service and maintenance functions scheduled on a daily, weekly and monthly basis. It is essential that the operator is well organised and able to execute the tasks efficiently and effectively as planned to promote the safety of personnel and vessel.
- Collecting, analysing, organising and critically evaluating information:
  - It is essential that an accurate picture of the condition of the vessel is maintained at all times so that it is ready and fit-for-purpose as required by the command aim. Information must be gathered and reported consistently to form and maintain this picture.
- Communicating effectively using visual, mathematical and/or language skills in the modes of oral/written persuasion:
  - Communication in a technical environment frequently makes use of diagrams. Instructions and requirements must be effectively communicated and feedback and input accurately interpreted and evaluated for the function to operate as intended.
- Using science and technology effectively and critically, showing responsibility towards the environment and health of others:
  - The entire function revolves around the critical and responsible use of technology, both in the operation of the plant as well as the detection of faults, and fabrication, maintenance and repair



operations. All of this must be carried out to minimise spillage and detrimental impact on the environment.

- Demonstrating and understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation:
  - A critical competence-the operator is also part of the broader picture of the ship's company and plays a part within that greater whole.
  
- Learning programmes directed towards this qualification will also contribute to the full personal development of each learner and the social and economic development of society at large, by making individuals aware of the importance of:
  - Reflecting on and exploring a variety of strategies to learn more effectively.
  - Participating as responsible citizens in the life of local, national and global communities.
  - Being culturally and aesthetically sensitive across a range of social contexts.
  - Exploring education and career opportunities.
  - Developing entrepreneurial opportunities.

#### **ASSOCIATED ASSESSMENT CRITERIA**

Associated Assessment Criteria for Exit Level Outcome 1:

1.1. Handover and/or relief of an engineering watch is performed while meeting international and national safety organisation safety requirements, and complying with South African Navy protocols and procedures.

Range:

- Safety organisations include: international maritime organisation (IMO); South African Maritime Safety Organisation (SAMSA).

1.2. Routine duties of the chief of the watch are managed and performed in compliance with safety and emergency procedures.

1.3. Precautions to prevent pollution to the marine environment during all evolutions are taken to comply with International Convention for the Prevention of Pollution from Ships (MARPOL) requirements.

1.4. Actions taken in the event of a pollution emergency meet the requirements of shipboard oil pollution plan (SOPEP) as specified in the Shipboard Marine Pollution Emergency Plans.

Associated Assessment Criteria for Exit Level Outcome 2:

2.1 Tools for a range of fabrication and/or repair operations on marine machinery and equipment are selected appropriately for the particular operation and are used in accordance with their design and purpose.

2.2 Shipboard plant, marine machinery and other equipment is dismantled according to engineering procedures as required for repair work.

2.3 Parts are fabricated within the tolerance limits as stipulated by machine and equipment manufacturers.

2.4 Marine machinery and equipment is repaired and reassembled in accordance with naval operating procedures and manufacturer requirements, so as to deliver the performance as per manufacturer's specifications.

2.5 Housekeeping is done according to safe engineering practice requirements and naval standards.

2.6 Reports are completed and submitted to authorised personnel on time in the required format.

Associated Assessment Criteria for Exit Level Outcome 3:

3.1 Start up, operation and shut down of propulsion machinery and associated control systems is performed consistent with operating principles and procedures, and manufacturer's specifications.

3.2 Operation of propulsion machinery and associated control systems is executed in a manner that optimises output according to specified requirements, within operational constraints.

3.3 Start up, operation and shut down of pumps and associated control systems is performed consistent with operating principles and procedures, and manufacturer's specifications.

3.4 Preventative maintenance and servicing of pumps is carried out in accordance with the schedule and standard operating procedures.

3.5 Electrical generation equipment is operated in accordance with operating principles and procedures.

**Associated Assessment Criteria for Exit Level Outcome 4:**

4.1 Safe work procedures are identified, developed, communicated and/or confirmed for critical areas of engineering operation, in line with accepted policy and procedures, to promote safe working practices in the engineering environment.

4.2 Planning for maintenance is done in compliance with the naval maintenance documentation system and requirements.

4.3 Planned maintenance is executed, evaluated and reported according to specified requirements.

4.4 Installations are inspected and equipment set to design specifications in preparation for harbour and sea trials, as specified in established procedures.

4.5 Harbour and sea trials are executed in accordance with their purpose, and planned and/or corrective maintenance and/or repair work confirmed to be at required standards.

**Associated Assessment Criteria for Exit Level Outcome 5:**

5.1 Hazards which enhance the likelihood of fire or flood are identified, and precautions taken are consistent with good practice and naval operating procedures.

5.2 All engineering work is done in conformance with the requirements of safe work practices, and limits the opportunity for fire and/or flood damage.

5.3 Responses to fire and/or flood are made appropriate to the nature of the emergency, the threat to vessel and personnel and in line with onboard emergency plans.

**Integrated Assessment:**

Assessment should be carried out at regular intervals as well as at the end of the periods of study and should be offered in an integrated way. It is envisaged that learners will work at more than one unit standard at a time.

Assessment should focus on the learners' ability to apply theoretical knowledge and understanding to practical application. Assessors should use a range of strategies to allow learners to demonstrate applied competence. Assessment strategies and procedures should be in alignment with the purpose and exit level outcomes of the qualification. These should primarily consist of practical assessments supported by written assignments, tests and/or examinations, case studies, problem solving assignments, portfolios of learning and projects.

Learners must demonstrate the ability to engage in the operations selected in an integrative way, dealing with divergent and "random" demands related to these work operations, effectively. Evidence is required that the learner is able to achieve the purpose of the qualification as a whole at the time of the award of the qualification. Integration of skills will be demonstrated through the achievement of the core operational standards.

Assessors should note that evidence of integration could well be presented by learners when being assessed against the individual unit standards. Thus, there should not necessarily be separate assessments for each unit standard and then further assessment for integration. Well designed assessments should make it possible to gain evidence against each unit standard while at the same time gaining evidence of integration.

**INTERNATIONAL COMPARABILITY**

The qualifications from the following countries have been examined for comparison:

- United Kingdom (Royal Navy).
- Canada.
- Australia.
- India.

In addition, the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and South African Maritime Safety Authority (SAMSA) codes have informed the development of this qualification.

The rationale for the choice is as follows: The Royal Navy is the leader, and their practices are widely copied throughout the world. All other Navies and maritime Organisations comply with the STCW codes, leading to a substantial degree of uniformity in a highly regulated environment [This qualification was developed with the STCW codes in mind]. Canada has a long history of outcomes based approaches, and their qualifications represent a useful variation on the Royal Navy. The Australian qualifications are amongst the best standards based approaches to navy engineering qualifications. The Indian examples provide insight into approaches from the sub-continent. Finally, the South African Maritime Safety Authority (SAMSA) is the regulatory body for South Africa, and the SA Navy has made every attempt to meet their requirements, in the interests of compliance, portability and articulation.

**Standards of Training, Certification and Watchkeeping (STCW):**

The STCW codes Chapter III, Section A-III/1 specify the competency requirements for engineering watchkeepers as follows:

- Use appropriate tools for fabrication and repair operations typically performed on ships.
- Use hand tools and measuring equipment for dismantling, maintenance, repair and re-assembly of shipboard plant and equipment.
- Use hand tools, electrical and electronic measuring and test equipment for fault-finding, maintenance and repair operations.
- Maintain a safe engineering watch.
- Use English in written and oral form.
- Operate main and auxiliary machinery and associated control systems.
- Operate pumping systems and associated control systems.
- Operate alternators, generators and control systems.
- Maintain marine engineering systems, including control systems.
- Ensure compliance with pollution-prevention requirements.
- Maintain seaworthiness of the ship.
- Prevent, control and fight fires on board.
- Operate life-saving devices.
- Apply medical first aid on board ship.
- Monitor compliance with legislative requirements.

South African Maritime Safety Authority-Marine Notice No. 15 of 2005:

**Engineer Officer:**

A candidate for the certificate of competency as engineer officer must be at least 18 years of age and must have:

- (a) Completed at least 6 months approved sea service as assistant engineer officer on ships of 750 kW propulsion power or more under the supervision of an engineer officer.

(b) Passed a theoretical examination at an accredited institution and have successfully completed approved training consisting either:

(i) Of an approved cadetship, of at least 30 months, consisting of:

(aa) Practical workshop training.

(bb) Theoretical education.

(cc) At least six months approved sea service.

or

(ii) Of an approved trade as an artisan in an engineering discipline.

(c) Been assessed at Level 1, 2 and 3.

Interpretation:

To avoid doubt, the following terms and expressions are explained:

Approved sea service means service on a ship, other than one that navigates exclusively in inland waters or in a port operations area, that is engaged in ordinary trading (i.e. commercial operations). Sea service in non-trading ships must satisfy regulation 56 of the Merchant Shipping (Training and Certification) Regulations, 1999, and may be approved at the discretion of the senior examiner.

Approved training means training at a SAMSA accredited training institution, or training consisting either of a cadetship or a trade as an artisan in an engineering discipline, approved at the discretion of the senior engineer examiner.

Exemptions:

Eligibility requirements for engineer officer (engineer cadet):

A candidate for the certificate of competency as engineer officer may be exempted from having to complete an approved cadetship or approved trade as an artisan in an engineering discipline, if:

- The candidate is at least 18 years of age.
- The candidate has completed at least 18 months approved sea service, of which at least 6 months must have been served as assistant engineer officer on ships of 750 kW propulsion power or more under the supervision of an engineer officer.
- The candidate has completed the ISF on-board training record book for engineer cadets, has passed the approved theoretical education in accordance with the Code and has completed approved practical workshop training.
- The candidate has completed the ancillary courses as laid down by the Merchant Shipping (Training and Certification) Regulations, 1999.
- The candidate has passed an approved simulator training course on engine room watchkeeping.
- The candidate has been assessed at Level 2 and 3.

Eligibility requirements for engineer officer (marine motorman higher grade):

A candidate who is the holder of a marine motorman higher grade certificate of competency may be granted an engineer officer certificate of competency if:

- The candidate has passed approved theoretical education in accordance with the Code.
- The candidate has successfully completed the ancillary courses required by the Merchant Shipping (Training and Certification) Regulations, 1999.

- The candidate has completed at least 3 months approved sea service as an assistant engineer officer on vessels of 750 kW propulsion power or more, other than fishing and port operations vessels, under the supervision of an engineer officer.
- The candidate has been assessed at level 2 and 3.

United Kingdom:

Job description-Engineering Watchkeeper:

The Royal Navy uses highly sophisticated, modern warships which can operate in the harshest conditions imaginable. The Engineering Watchkeeper is part of the team that looks after everything from the fuel, power and propulsion systems that keep the ship going, to the water purification and air-conditioning equipment critical to the wellbeing of the crew.

Responsibilities:

- Carrying out routine maintenance on all different kinds of equipment on board ship, such as the engines, the emergency steering and the ventilation system.
- Investigating faults, and then making repairs so that the vessel can carry out its mission.
- Operating machinery like the pumps, steering gear and engines, and helping with the refueling of the ship while at sea.
- Looking after the fuel and electricity for aircraft and managing the lifts on board aircraft carriers.
- Being part of a damage control and fire fighting team so that, in case of emergency, the Engineering Watchkeeper will know how to cope.

Training:

When ratings have completed a course of training approved by the Department, they may proceed to sea as uncertified engineering officers and perform the sea service as indicated below. To progress, they need qualifying sea service while in possession of the MNTB Motorman Certificate, and must be nominated assistant to engineering officer in charge of the watch. They also require a 4-day fire-fighting course and 1st aid at sea. The progression route is outlined below:

Class 4 Certificate of Competency after sea service on a vessel not less than 350 Kilowatt. Conditions for each of the certificates are:

- Motor Certificate: requires 6 months at sea, 4 of which must include watchkeeping on main propelling machinery for motor ships.
- Steam Certificate: requires 6 months at sea, 4 of which must include watchkeeping on boilers and main propulsion.
- Combined Certificate: 8 months at sea, 4 of which must include watchkeeping on motor engines, and 4 on steam.

Class 3 Certificate of Competency: 12 months/8 of which must include watchkeeping on main propelling machinery, motor ships; and the balance on main propulsion, steam, or day work. Service endorsement: 12 months with Class 3 Cert of competency; sea service on motor ships.

Class 2 Certificate of Competency: sea service on a vessel not less than 750 Kilowatt.

- Motor Certificate: 18 months at sea/9 of which must include watchkeeping on main propelling machinery, motor ships; the balance include watchkeeping on main, steam, or day work.
- Steam Cert: 18 months/9 of which must include watchkeeping on boilers/main propulsion; the balance on main, steam, or day work.
- Combined: 18 months/must include 9 months watchkeeping on each.
- Service endorsement: 12 months with Class 2 Cert.

For class 1-sea service on a vessel not less than 1500 Kilowatt:

- Motor Certificate: 18 months/9 of which must include watchkeeping on a vessel not less than 3000 kW, with a Class 2 Certificate.
- Steam Certificate: 18 months/9 of which must include watchkeeping on boilers/main propulsion; the balance on main propulsion, steam, or day work.
- Combined Certificate: 18 months 9 of which must include watchkeeping on a vessel not less than 3000 kW, with Class 2 Certificate.
- Service endorsement 12 months with Class 2 Certificate.

Royal Australian Navy:

Australia Education/Training:

To become an Engineer Trainee a candidate must complete an engineering trade approved by the Australian Maritime Safety Authority. An Engineer Trainee can become a marine engineer through completion of a certificate in pre-sea training, followed by an at-sea service training course sponsored by a shipping company. This training course consists of a Diploma of Marine Engineering (Watchkeeping). On completion of the diploma, and if qualifying sea service or workshop experience is satisfactory, trainees will be examined by the Australian Maritime Safety Authority for an Engineer Watchkeeping Certificate of Competency. The trainees may then undertake a diploma, advanced diploma or degree in marine engineering. To become an Engineer Cadet they must complete year 12 and complete an Engineer Cadetship approved by the Australian Maritime Safety Authority. This requires the same training as an Engineer Trainee, plus a minimum of 36 weeks approved trade training.

Entry to the certificate course usually requires completion of at least Year 12 with passes in mathematics, sciences and English. Entry to the diploma of marine engineering courses below usually requires TCE with English and mathematics and/or significant progress towards or completion of a Diploma of Marine Engineering (Watchkeeper) or an Engineer Watchkeeping Certificate of Competency. The advanced diploma and degree courses usually require completion of TCE with English, mathematics and physics.

The following suggests a progression of qualifications leading to the Level 4 qualification which equates well with the proposed National Certificate: Engineering Watchkeeping-Level 4.

**TDM 202 01 Certificate II In Transport and Distribution (Marine Engine Driving)**  
Characteristics of the Qualification.

**Title: Certificate II In Transport and Distribution (Marine Engine Driving).**

**Rationale:**

Successful completion will require competency in units that relate to work defined as aligned at AQF Level 2.

"Performance of a prescribed range of functions involving known routines and procedures and some accountability for the quality of outcomes. Applications may include some complex or non-routine activities involving individual responsibility or autonomy and/or collaboration with others as part of a group or team."

**Qualification Contents:**

- B Equipment Checking, and Maintenance:
  - TDM MB36 01A Prepare a small vessel's machinery for sea.
  - TDM MB19 01A Carry out basic hull maintenance.

- E Communications:
  - TDM ME1 01A Understand orders and be understood in relation to shipboard duties\*.
- F Operational Quality and Safety:
  - TDM MF7 01A Observe safe working practices\*.
  - TDM MF8 01A Comply with emergency procedures\*.
  - TDM MF9 01A Fight and extinguish fires\*.
  - TDM MF10 01A Provide first aid\*.
  - TDM MF11 01A Survive at sea in the event of vessel abandonment\*.
  - TDM MF12 01A Minimise the risk of fire and maintain a state of readiness to respond to emergency situations involving fire\*.
  - TDM MF39 01A Maintain running log including fuel calculations and written reports.
- L Human Resources:
  - TDM ML2 01A Contribute to effective human relationships on board a vessel\*.
- R Carry Out Operations on Equipment and Systems:
  - TDM MR18 01A Operate deck machinery installed on a small vessel.
  - TDM MR19 01A Safely handle and stow explosive and flammable materials.
  - TDM MR30 01A Operate and carry out basic service checks on small vessel marine propulsion systems.
  - TDM MR31 01A Operate and carry out basic servicing on auxiliary systems.
  - TDM MR32 01A Operate and carry out basic routine servicing of marine extra low and low voltage electrical systems.
- U Environment:
  - TDM MU4 01A Ensure compliance with pollution prevention measures.

#### Requirements for completion of the Qualification:

A successful assessment outcome of 8 pre sea entry level units (identified by asterisks above) and 9 units chosen from above and/or relevant cross industry units listed in the rear of this Training Package. When packaged together these units need to provide a coherent qualification, inclusive of the competencies necessary to fulfill occupational and regulatory requirements. Where certification through a marine authority is also to be sought, the selection should include all of the units related to certification requirements.

This includes the mandatory pre-sea unit requirements shown by an asterisk in the table above.

TDM 302 01 Certificate III in Transport and Distribution.  
(Marine Engine Driving).  
Characteristics of the Qualification.

Title: Certificate III in Transport and Distribution (Marine Engine Driving).

#### Rationale:

A qualification for the Maritime sector of the Transport and Distribution. Successful completion will require competency in units that relate to work defined as aligned at AQF Level 3.  
"Performance of a defined range of skilled operations, usually within a range of broader related activities involving known routines, methods and procedures, where some discretion and judgement is required in the selection of equipment, services or contingency measures and within known time constraints. Applications may involve some responsibility for others. Participation in teams including group or team coordination may be involved."

#### Qualification Contents:

- B Equipment Checking and Maintenance:
  - TDM MB29 01A Recognise and correct deteriorated fittings and machinery.
- E Communications:
  - TDM ME1 01A Understand orders and be understood in relation to shipboard duties\*.
- F Operational Quality and Safety:
  - TDT MF7 01A Observe safe working practices \*.
  - TDM MF8 01A Comply with emergency procedures\*.
  - TDM MF9 01A Fight and extinguish fires\*.
  - TDM MF10 01A Provide first aid\*.
  - TDM MF11 01A Survive at sea in the event of vessel abandonment\*.
  - TDM MF12 01A Minimise the risk of fire and maintain a state of readiness to respond to emergency situations involving fire\*.
  - TDM MF27 01A Prevent, control and fight fires on board a small vessel.
  - TDM MF40 01A Carry out basic operational engineering calculations.
  - BSXFMI409A Implement and monitor continuous improvement systems and processes.
  - BSXFMI306A Manage workplace information.
- L Human Resources:
  - TDM ML2 01A Contribute to effective human relationships on board a vessel\*.
  - TDM ML3 01A Establish and maintain a harmonious workplace environment.
  - BSXFMI304A Participate in, lead and facilitate work teams.
- R Carry Out Operations on Equipment and Systems.
  - TDM MR19 01A Safely handle and stow explosive and flammable materials.
  - TDM MR27 01A Operate and maintain marine internal combustion engines on vessels of 750 kW propulsion power or less.
  - TDM MR28 01A Operate and maintain auxiliary systems on vessels up to 750 kW propulsion power.
  - TDM MR29 01A Operate and maintain marine low and medium voltage electrical systems.
- U Environment :
  - TDM MU4 01A Ensure compliance with pollution prevention measures.

#### Requirements for completion of the Qualification:

A successful assessment outcome of 8 pre sea entry level units (identified by asterisks above) and 13 units chosen from above and/or relevant cross industry units listed in the rear of this Training Package. When packaged together these units need to provide a coherent qualification, inclusive of the competencies necessary to fulfill occupational and regulatory requirements. Where certification through AMSA or another marine authority is also to be sought, the selection should include all of the units related to certification requirements. This includes the mandatory pre-sea unit requirements shown by an asterisk in the table above.

TDM 402 01 Certificate IV in Transport and Distribution (Marine Engineering).  
Characteristics of the Qualification.

Title: Certificate IV in Transport and Distribution (Marine Engineering).

#### Rationale:



A management qualification for the Maritime sector of the Transport and Distribution Industry. Successful completion will require competency in units that relate to work defined as aligned at AQF Level 4. "Performance of a broad range of skilled applications including requirements to evaluate and analyse current practices, develop new criteria and procedures for performing current practices and provision of some leadership and guidance to others in the application and planning of the skills. Applications involve responsibility for, and limited organisation of, others." Qualification Contents:

- B Equipment Checking and Maintenance:
  - TDM MB31 01A Organise maintenance and repairs on a small vessel.
  - TDM MB35 01A Employ Damage Control techniques for hull damage.
  - TDM MB37 01A Fabricate simple shipboard components.
  - TDM MB38 01A Dismantle, inspect, repair and reassemble vessel machinery.
  
- E Communications:
  - TDM ME1 01A Understand orders and be understood in relation to shipboard duties\*.
  
- F Operational Quality and Safety:
  - TDM MF4 01A Maintain the operational condition of life-saving, fire-fighting and other safety systems.
  - TDM MF5 01A Develop emergency and damage control plans and handle emergency situations.
  - TDM MF7 01A Observe safe working practices\*.
  - TDM MF8 01A Comply with emergency procedures\*.
  - TDM MF9 01A Fight and extinguish fires\*.
  - TDM MF10 01A Provide first aid\*.
  - TDM MF11 01A Survive at sea in the event of vessel abandonment\*.
  - TDM MF12 01A Minimise the risk of fire and maintain a state of readiness to respond to emergency situations involving fire\*.
  - TDM MF13 01A Manage fire fighting and prevention activities.
  - TDM MF18 01A Apply medical first aid on board a vessel.
  - TDM MF19 01A Operate lifesaving appliances.
  - TDM MF27 01A Prevent, control and fight fires on board a small vessel.
  - TDM MF38 01A Establish engine room watchkeeping procedures on vessels of less than 3,000 propulsion power.
  - TDM MF41 01A Carry out engineering calculations related to maintenance and operations.
  - BSXFMI405A Manage operations to achieve planned outcomes.
  - BSXFMI406A Manage workplace information.
  - BSXFMI409A Implement and monitor continuous improvement systems and processes.
  - BSXFMI410A Facilitate and capitalise on change and innovation.
  
- L Human Resources:
  - TDM ML2 01A Contribute to effective human relationships on board a vessel\*.
  - BSXFMI404A Participate in, lead and facilitate work teams.
  - BSXFMI403A Establish and manage effective workplace relationships.
  
- N Assessment:
  - BSZ402A Conduct assessment:
  
- R Carry Out Operations on Equipment and Systems:
  - TDM MR19 01A Safely handle and stow explosive and flammable materials.
  - TDM MR21 01A Operate and maintain engines, machinery and auxiliary power sources on vessels of less than 3,000 propulsion power.
  - TDM MR22 01A Operate and maintain boiler systems.

- TDM MR23 01A Operate and maintain batteries, starter motors and power distribution systems.
- TDM MR24 01A Operate and marine internal combustion engines and propulsion transmission systems.
- TDM MR25 01A Operate and maintain auxiliary machinery systems, including steering gear and refrigeration systems.
- TDM MR26 01A Test, maintain and operate marine electrical and control equipment.
- MEM 18.1 A Use hand tools.
- MEM 18.2 A Use power tools/hand held operations.
- MEM 5.1 A Manual soldering/desoldering electrical. electronic components.
- MEM 5.4 A Perform routine oxyacetylene welding (fuel gas welding).
- MEM 5.6 A Perform brazing and/or silver soldering.
- MEM 5.7 A Manual heating thermal cutting and gouging.
- MEM 5.15 A Weld using manual metal arc welding process.
- MEM 7.5 A Perform general machining.

**Requirements for completion of the Qualification:**

A successful assessment outcome of 8 pre sea entry level units (identified by asterisks above) and 17 units chosen from above and/or relevant cross industry units listed in the rear of this Training Package. When packaged together these units need to provide a coherent qualification, inclusive of the competencies necessary to fulfill occupational and regulatory requirements. Where certification through AMSA or another marine authority is also to be sought, the selection should include all of the units related to certification requirements. This includes the mandatory pre-sea unit requirements shown by an asterisk in the table above.

**TDM 502 01 Diploma of Transport and Distribution (Marine Engineering).**  
**Characteristics of the Qualification.**

**Title: Diploma of Transport and Distribution (Marine Engineering):**

**Rationale:**

An operational qualification for the Maritime sector of the Transport and Distribution Industry. Successful completion will require competency in units that relate to work defined as aligned at AQF Level 5.

"The self-directed application of knowledge and skills, with substantial depth in some areas where judgement is required in planning and selecting appropriate equipment, services and techniques for self and others. Applications involve participation in development of strategic initiatives, as well as personal responsibility and autonomy in performing complex technical operations or organising others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination and management may be involved.

**Qualification Contents:**

- **A Handling Cargo and Vessel Stability:**
  - TDM MA10 01A Control trim, stability and stress
- **B Equipment Checking and Maintenance:**
  - TDM MB4 01A Maintain seaworthiness of vessel.
  - TDM MB12 01A Fault-find, dismantle, maintain and repair shipboard plant and equipment.
  - TDM MB13 01A Carry out shipboard fabrication and repair operations.
  - TDM MB15 01A Detect and identify the cause of machinery malfunctions and repair faults on vessels over 750 kW of propulsion power.

- TDM MB16 01A Organize safe maintenance and repair procedures on vessels over 750 kW of propulsion power.
- TDM MB17 01A Test, detect faults and maintain and restore electrical/electronic control equipment to operating condition on vessels over 750 kW of propulsion power.
  
- E Communications:
  - TDM ME1 01A Understand orders and be understood in relation to shipboard duties\*.
  - TDM ME7 01A Use English in written and oral form to perform engineering duties.
  
- F Operational Quality and Safety:
  - TDM MF3 01A Monitor compliance with legislative requirements and measures to ensure safety of life at sea.
  - TDM MF4 01A Maintain the operational condition of life-saving, fire-fighting and other safety systems.
  - TDM MF5 01A Develop emergency and damage control plans and handle emergency situations.
  - TDT MF7 01A Observe safe working practices\*.
  - TDM MF8 01A Comply with emergency procedures\*.
  - TDM MF9 01A Fight and extinguish fires\*.
  - TDM MF10 01A Provide first aid\*.
  - TDM MF11 01A Survive at sea in the event of vessel abandonment\*.
  - TDM MF12 01A Minimise the risk of fire and maintain a state of readiness to respond to emergency situations involving fire\*.
  - TDM MF 13 01A Manage marine fire-fighting and prevention activities.
  - TDM MF 14 01A Plan and implement special safety, maintenance and emergency procedures for liquefied gas tankers.
  - TDM MF 15 01A Plan and implement special safety, maintenance and emergency procedures for chemical tankers.
  - TDM MF 16 01A Plan and implement special safety, maintenance and emergency procedures for oil tankers.
  - TDM MF18 01A Apply medical first aid on board a vessel.
  - TDM MF19 01A Operate lifesaving appliances.
  - TDM MF20 01A Prevent, control and fight fires on board a vessel.
  - TDM MF22 01A Maintain safety of engine equipment, systems and services on vessels of unlimited propulsion power.
  - TDM MF24 01A Maintain safety of engine equipment, systems and services on vessels over 750 kW of propulsion power.
  - TDM MF25 01A Ensure safe working practices.
  - TDM MF26 01A Establish watch keeping arrangements and procedures.
  - TDM MF31 01A Maintain a safe engineering watch.
  - TDM MF37 01A Manage vessel operations.
  - BSXFMI505A Manage operations to achieve planned outcomes.
  - BSXFMI506A Manage workplace information.
  - BSXFMI509A Implement and monitor continuous improvement systems and processes.
  - BSXFMI510A Facilitate and capitalise on change and innovation.
  
- L Human Resources:
  - TDM ML1 01A Organise and manage the crew.
  - TDM ML2 01A Contribute to effective human relationships on board a vessel\*.
  - BSXFMI504A Participate in, lead and facilitate work teams.
  - BSXFMI503A Establish and manage effective workplace relationships.
  
- N Assessment:
  - BSZ503A Design and establish the assessment system.
  - BSZ402A Conduct assessment.

- R Carry Out Operations on Equipment and Systems:
  - TDM MR9 01A Operate alternators, generators and control systems to supply shipboard electrical power.
  - TDM MR10 01A Operate pumping systems and associated control systems.
  - TDM MR11 01A Operate main and auxiliary machinery and associated control systems.
  - TDM MR13 01A Operate electrical/electronic control equipment on vessels over 750 kW of propulsion power.
  - TDM MR14 01A Manage fuel and ballast operations on vessels over 750 kW of propulsion power.
  - TDM MR15 01A Operate, monitor and evaluate engine performance on vessels over 750 kW of propulsion power.
  - TDM MR16 01A Plan and schedule operations on vessels over 750 kW of propulsion power.
  - TDM MR17 01A Start up and shut down main propulsion and auxiliary machinery and associated systems on vessels over 750 kW of propulsion power.
  - MEM 18.1 A Use hand tools.
  - MEM 18.2 A Use power tools/hand held operations.
  - MEM 5.1 A Manual soldering/desoldering electrical, electronic components.
  - MEM 5.4 A Perform routine oxyacetylene welding (fuel gas welding).
  - MEM 5.6 A Perform brazing and/or silver soldering.
  - MEM 5.7 A Manual heating thermal cutting and gouging.
  - MEM 5.15 A Weld using manual metal arc welding process.
  - MEM 7.5 A Perform general machining.
- U Environment:
  - TDM MU1 01A Monitor compliance with legislative requirements and measures to ensure protection of the marine environment.
  - TDM MU4 01A Ensure compliance with pollution prevention measures.

#### Requirements for completion of the Qualification:

A successful assessment outcome of 8 pre sea entry level units (identified by asterisks above) and 20 units chosen from above and/or relevant cross industry units listed in the rear of this Training Package. When packaged together these units need to provide a coherent qualification, inclusive of the competencies necessary to fulfill occupational and regulatory requirements.

Where certification through AMSA is also to be sought, the selection should include all of the units related to certification requirements. This includes the mandatory pre-sea unit requirements shown by an asterisk in the table above.

BSZ503A Design and Establish the Assessment System can only be undertaken if the BSZ40198 Certificate IV in Assessment and Workplace Training or equivalent has been completed.

#### Canada:

##### Marine Engineering Mechanic:

Marine Engineering Mechanics operate and monitor the correct operation of a ship's mechanical equipment. The mechanical systems for which they are responsible are diverse and complex. Under supervision, they inspect, test, maintain, repair, modify and install equipment associated with the trade. The ability to perform as a member of a tactical team, to understand directions, to react quickly, and to cope with unfamiliar situations is essential. Initiative and dependability are necessary attributes, as is the willingness to work for extended periods to complete a given job.

Marine Engineering Mechanics monitor correct operation and assist with maintenance of:

- Main and auxiliary high-pressure boilers.
- Diesel and gas turbine propulsion engines.
- Hydraulic, mechanical and electrical control systems used in monitors, alarms, helicopter haul-down and replenishment-at-sea equipment.
- Refrigeration and air conditioning equipment.
- Ship's steering equipment.
- The systems that produce the ship's domestic and boiler feed water.
- Filling and transfer systems for water, fuels and lubricants.
- Complete departmental records and maintenance reports.
- Complete administration required for obtaining, storing and disposing of supplies and hazardous materials used by the trade.

#### Training:

Training begins with a Basic Military Qualification (BMQ) which provides the basic core skills and knowledge common to all trades. Apart from Canadian Navy specific input, the course covers the following topics:

- Basic safety.
- First aid.
- Personal survival in nuclear, biological and chemical conditions.
- Handling and firing personal weapons.
- Cross-country navigation, and
- Personal survival in field conditions.

On completion of the BMQ, Marine Engineering Mechanics attend Naval Environmental Training which includes:

- Naval history and organization.
- Shipboard fire-fighting and damage control.
- Watchkeeping duties.
- Seamanship.

The second portion of the training includes the following:

- Common engineering practices and publications.
- Liquid contamination detection.
- Safe working attitudes and practices.
- Machinery lubrication.
- Use of hand tools.
- Maintenance of valves and gaskets.
- Systems familiarization.

Training is continued through on-the-job training onboard ship.

#### Advanced and Specialty Training:

Personnel who demonstrate the desire and possess the prerequisite qualifications may be selected for advanced specialty training as they progress in their careers. Below are examples of training related to this Military Occupational Training.

- Journeyman Occupation Training Courses.
- Preventive and Corrective Maintenance Techniques.
- Auxiliary and Propulsion Machinery Operator Certification.
- Specialty Training Courses.

- Submarines.
- Ship's Diver.
- Instructional Techniques.
- Gas Turbine Heavy Maintenance.
- Heavy Diesel Maintenance-specific to shipboard models.
- Integrated Machinery Control System Technician Training (IMCS).
- Diesel Inspector.
- Non-destructive Testing Techniques.
- Helicopter Haul-down and Fuelling Training.
- Machinist Specialist.
- Career Development.

Marine Engineering Mechanics have opportunity for career progression and advanced training courses. At various stages throughout their career, they must obtain Marine Engineering operating certificates, which reflect and assure a competent level of watchkeeping and technical ability.

#### Indian Navy:

The Indian Navy allows for a stepped progression through the engineering ranks as described below:

#### Direct Entry Engineering Mechanic Course:

##### Aim of Course:

- Ab-initio course.
- To train matriculate sailors as engineering mechanics.

##### Pre Course Requirement:

- Should have qualified on the entry exam.
- Should be matriculate with 55% aggregate marks or more.

##### Duration:

- 28 weeks.

##### Post Course Recommendations:

- Be employed on board ships for watch keeping on Auxiliary machinery such as shafting, steering gear etc. and also be an able mate for Engineering Rating.

#### Leading Engineering Mechanic Course:

##### Aim of Course:

- Promotion for Leading Engineering Mechanic rank.

##### Pre Course Requirement:

- Should have qualified Auxiliary watchkeeping certificate.

##### Duration:

- 11 weeks.

**Post Course Recommendations:**

- Be employed on board ships for performing independent watchkeeping on Auxiliary machinery.

**Mechanician IV Class Course:****Aim of Course:**

- Ab-initio course for mechanics.
- To train engineering mechanic for artificers cadre.

**Pre Course Requirement**

- Should have scored 70% marks or above in previous courses.

**Duration:**

- 110 weeks.

**Post Course Recommendations:**

- Be employed on board ships for operation, maintenance and defect rectification on all main/auxiliary machinery.

**Chief Engineering Mechanic Course:****Aim of Course:**

- As a pre requisite for promotion for the rank of Chief Engineering Mechanic.
- As a refresher course to update knowledge on main propulsion machinery, auxiliaries, NBCD, technical administration and ship control systems etc. Also to give fresh inputs on latest development in the field of marine engineering.

**Duration:**

- 6 weeks.

**Post Course Recommendations:**

- Be employed for carrying out duties as chief regulator.
- Be employed for performing independent watch keeping of all machinery onboard.

**Conclusion:**

This qualification meets the STCW Code requirements, as well as the SAMSA requirements for qualification. The additional competences meet other requirements specific to the Navy rather than civilian needs. Overall, the qualification is consistent with training provided for commercial engineering watchkeepers and Navy watchkeepers internationally.

**ARTICULATION OPTIONS**

Possibilities for articulation outside of marine engineering include qualifications in the following areas:

**Horizontal Articulation:**

- ID 58270: Further Education and Training Certificate: Electro-Mechanics, NQF Level 4, 171 Credits.
- ID 58721: Further Education and Training Certificate: Engineering Fabrication, NQF Level 4, 141 Credits.
- ID 59709: Further Education and Training Certificate: Mechanical Engineering: Fitting NQF Level 4, 120 Credits.

Vertical Articulation:

- ID 58883: National Certificate: Fluid Power, NQF Level 5, 129 Credits.

#### **MODERATION OPTIONS**

- Providers offering learning towards achievement of any of the unit standards that make up this qualification must be accredited through the relevant ETQA. Accredited providers must establish moderation procedures and systems in line with the requirements of the ETQA.
- Internal moderation of assessment must take place at the point of assessment with external moderation or verification being provided by the relevant ETQA. External moderators should provide reports not only on the fairness and consistency of assessment, but also on the validity of the assessment design in terms of the specified outcomes.

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

Anyone assessing learners against this qualification must be registered as an assessor with the relevant ETQA. The following criteria are specified for assessors of this qualification:

- Be registered as an assessor with the relevant ETQA.
- Be in possession of a similar qualification at NQF Level 5 or higher.
- Have a minimum of 3 years experience in the field of marine engineering.

#### **NOTES**

Where SAMSA accreditation is required, the following particular issues should be taken into consideration:

SAMSA Assessment procedure:

- Every candidate for the issue of a certificate of competency as deck or engineer officer must be assessed at one or more of the following levels:
  - Level 1; this assessment is carried out during qualifying service on a ship and involves the practical demonstration that the required level of competency has been reached or during training at an accredited institution, and must be carried out aboard ship by one or more designated ship's officers and ashore by one or more assessors.
  - Level 2; this assessment is carried out during qualifying service on a ship or during training at an accredited training institution, and must be carried out by an assessor.
  - Level 3; this assessment is carried out by an examiner and an assessor when a candidate presents himself or herself for oral examination.
- All units of competency that are to be assessed at Level 1 or 2 must be indicated in the training record book issued to the candidate.
- Only an assessor may sign off a unit of competency in the candidate's training record book when the candidate is considered to be ready for the next level of assessment (if any) and has successfully demonstrated competency in the unit as specified in the Code for South African Maritime Qualifications (the Code).

Assessors:



Every person who, whether on or off a ship, conducts in-service assessment of a candidate for the purposes of certification must:

- Have an appropriate level of knowledge and understanding of the competency to be assessed.
- Have proof of being qualified in the activities for which the assessment is being made.
- Have proof of having received appropriate guidance in assessment methods and practices.
- Have gained appropriate experience.

### UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	Level 3	5
Fundamental	119457	Interpret and use information from texts	Level 3	5
Fundamental	119467	Use language and communication in occupational learning programmes	Level 3	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	Level 3	5
Fundamental	9015	Apply knowledge of statistics and probability to critically interrogate and effectively communicate findings on life related problems	Level 4	6
Fundamental	119462	Engage in sustained oral/signed communication and evaluate spoken/signed texts	Level 4	5
Fundamental	119469	Read/view, analyse and respond to a variety of texts	Level 4	5
Fundamental	9016	Represent analyse and calculate shape and motion in 2- and 3-dimensional space in different contexts	Level 4	4
Fundamental	7468	Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues	Level 4	6
Fundamental	12153	Use the writing process to compose texts required in the business environment	Level 4	5
Fundamental	119459	Write/present/sign for a wide range of contexts	Level 4	5
Core	376240	Carry out Class C scheduled maintenance activities on board a SA navy vessel	Level 4	4
Core	376261	Carry out chief of the watch duties in the engine room of a SA navy vessel	Level 4	10
Core	376243	Combat fire and flood while on watch	Level 4	4
Core	376242	Conduct engineering trials on a vessel	Level 4	4
Core	376241	Conduct fabrication and repair operations on ships	Level 4	6
Core	376263	Conduct personnel management functions for a team on a SA Navy vessel	Level 4	4
Core	376264	Dismantle, repair and assemble shipboard plant	Level 4	4
Core	376262	Ensure compliance with maritime pollution prevention requirements	Level 4	4
Core	376260	Implement safe work procedures for engineering work on a vessel	Level 4	4
Core	376246	Operate equipments to provide electrical power to seal a vessel	Level 4	4
Core	376265	Operate propulsion machinery and associated control systems.	Level 4	4
Core	376244	Operate pumping and associated control systems	Level 4	4
Elective	335856	Change and set tooling	Level 4	15
Elective	335863	Identify and solve problems pertaining to production machines	Level 4	15
Elective	335875	Implement and maintain business processes	Level 4	8

### LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION

None



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:**

***Carry out Class C scheduled maintenance activities on board a SA navy vessel***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376240	Carry out Class C scheduled maintenance activities on board a SA navy vessel		
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
TT - Sovereignty of the State			
<b>FIELD</b>		<b>SUBFIELD</b>	
8 - Law, Military Science and Security		Sovereignty of the State	
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Demonstrate knowledge of the naval maintenance documentation system.

**SPECIFIC OUTCOME 2**

Plan maintenance for South African Navy Vessels.

**SPECIFIC OUTCOME 3**

Conduct planned maintenance.

**SPECIFIC OUTCOME 4**

Evaluate and report on maintenance activities.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:****Conduct fabrication and repair operations on ships**

SAQA US ID	UNIT STANDARD TITLE		
376241	Conduct fabrication and repair operations on ships		
ORIGINATOR		PROVIDER	
TT - Sovereignty of the State			
FIELD	SUBFIELD		
8 - Law, Military Science and Security	Sovereignty of the State		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	6

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Demonstrate knowledge of operations that can be performed on board.

**SPECIFIC OUTCOME 2**

Demonstrate knowledge of special tools required for marine machinery and equipment.

**SPECIFIC OUTCOME 3**

Fabricate parts required to repair marine machinery and equipment.

**SPECIFIC OUTCOME 4**

Repair marine machinery and equipment.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:****Conduct engineering trials on a vessel**

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376242	Conduct engineering trials on a vessel		
<b>ORIGINATOR</b>	<b>PROVIDER</b>		
TT - Sovereignty of the State			
<b>FIELD</b>	<b>SUBFIELD</b>		
8 - Law, Military Science and Security	Sovereignty of the State		
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Conduct installation inspections.

**SPECIFIC OUTCOME 2**

Set equipment to design specifications.

**SPECIFIC OUTCOME 3**

Conduct harbour acceptance trials.

**SPECIFIC OUTCOME 4**

Conduct sea acceptance trials.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:****Combat fire and flood while on watch**

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376243	Combat fire and flood while on watch		
<b>ORIGINATOR</b>	<b>PROVIDER</b>		
TT - Sovereignty of the State			
<b>FIELD</b>	<b>SUBFIELD</b>		
8 - Law, Military Science and Security	Sovereignty of the State		
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Identify fire hazards.

**SPECIFIC OUTCOME 2**

Identify and use precautions against flooding.

**SPECIFIC OUTCOME 3**

Conduct safe engineering practices to reduce the risk of fire and flood.

**SPECIFIC OUTCOME 4**

React to emergencies.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Operate pumping and associated control systems***

SAQA US ID	UNIT STANDARD TITLE		
376244	Operate pumping and associated control systems		
ORIGINATOR	PROVIDER		
TT - Sovereignty of the State			
FIELD	SUBFIELD		
8 - Law, Military Science and Security	Sovereignty of the State		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Demonstrate knowledge of the working principles of pumping and control systems.

**SPECIFIC OUTCOME 2**

Start and shut down pump and control systems.

**SPECIFIC OUTCOME 3**

Operate pump and control systems.

**SPECIFIC OUTCOME 4**

Conduct preventative maintenance and servicing of pumps.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:****Operate equipments to provide electrical power to seal a vessel**

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376246	Operate equipments to provide electrical power to seal a vessel		
<b>ORIGINATOR</b>			<b>PROVIDER</b>
TT - Sovereignty of the State			
<b>FIELD</b>			<b>SUBFIELD</b>
8 - Law, Military Science and Security			Sovereignty of the State
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Demonstrate knowledge of electrical power generation on a vessel.

**SPECIFIC OUTCOME 2**

Prepare to operate electrical generation equipment.

**SPECIFIC OUTCOME 3**

Operate electrical generation equipment.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Implement safe work procedures for engineering work on a vessel***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376260	Implement safe work procedures for engineering work on a vessel		
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
TT - Sovereignty of the State			
<b>FIELD</b>		<b>SUBFIELD</b>	
8 - Law, Military Science and Security		Sovereignty of the State	
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Demonstrate knowledge of safe work procedures.

**SPECIFIC OUTCOME 2**

Develop safe working procedures.

**SPECIFIC OUTCOME 3**

Communicate safe work procedures.

**SPECIFIC OUTCOME 4**

Confirm safe work procedures.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Carry out chief of the watch duties in the engine room of a SA navy vessel***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376261	Carry out chief of the watch duties in the engine room of a SA navy vessel		
<b>ORIGINATOR</b>			<b>PROVIDER</b>
TT - Sovereignty of the State			
<b>FIELD</b>			<b>SUBFIELD</b>
8 - Law, Military Science and Security			Sovereignty of the State
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	10

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Relieve and handover an engineering watch.

**SPECIFIC OUTCOME 2**

Perform the duties of the chief of the watch.

**SPECIFIC OUTCOME 3**

Carry out routine duties required during a watch.

**SPECIFIC OUTCOME 4**

Manage and perform safety and emergency procedures.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:****Ensure compliance with maritime pollution prevention requirements**

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376262	Ensure compliance with maritime pollution prevention requirements		
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
TT - Sovereignty of the State			
<b>FIELD</b>		<b>SUBFIELD</b>	
8 - Law, Military Science and Security		Sovereignty of the State	
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Describe precautions to take in order to prevent pollution to the marine environment.

**SPECIFIC OUTCOME 2**

Take effective action in the event of a pollution emergency.

**SPECIFIC OUTCOME 3**

Implement pollution prevention measures during bunkering operations.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Conduct personnel management functions for a team on a SA Navy vessel***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376263	Conduct personnel management functions for a team on a SA Navy vessel		
<b>ORIGINATOR</b>		<b>PROVIDER</b>	
TT - Sovereignty of the State			
<b>FIELD</b>	<b>SUBFIELD</b>		
8 - Law, Military Science and Security	Sovereignty of the State		
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Conduct induction of new employees to the workplace.

**SPECIFIC OUTCOME 2**

Administer leave benefits.

**SPECIFIC OUTCOME 3**

Administer personnel requests and statements.

**SPECIFIC OUTCOME 4**

Manage grievances in the workplace.

**SPECIFIC OUTCOME 5**

Provide assistance on social welfare issues.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Dismantle, repair and assemble shipboard plant***

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376264	Dismantle, repair and assemble shipboard plant		
<b>ORIGINATOR</b>	<b>PROVIDER</b>		
TT - Sovereignty of the State			
<b>FIELD</b>	<b>SUBFIELD</b>		
8 - Law, Military Science and Security	Sovereignty of the State		
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Dismantle shipboard plant.

**SPECIFIC OUTCOME 2**

Repair components.

**SPECIFIC OUTCOME 3**

Assemble shipboard plant.

**SPECIFIC OUTCOME 4**

Complete the process and report results.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:****Operate propulsion machinery and associated control systems.**

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>		
376265	Operate propulsion machinery and associated control systems.		
<b>ORIGINATOR</b>	<b>PROVIDER</b>		
TT - Sovereignty of the State			
<b>FIELD</b>	<b>SUBFIELD</b>		
8 - Law, Military Science and Security	Sovereignty of the State		
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	4

New NQF Level: NQF Level 04

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Demonstrate knowledge of the working principles of main propulsion and auxiliary machinery.

**SPECIFIC OUTCOME 2**

Start and shut down main and auxiliary machinery and systems.

**SPECIFIC OUTCOME 3**

Operate main and auxiliary propulsion machinery.

**SPECIFIC OUTCOME 4**

Optimise output of propulsion machinery.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	77983	Further Education and Training Certificate: Engineering Watchkeeping	Level 4