

No. 1363

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**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

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

Curative Health

registered by Organising Field 09 – Health Sciences and Social Services, publishes the following Qualification for public comment.

This notice contains the title, field, sub-field, NQF level, credits, and purpose of the Qualification. The full Qualification can be accessed via the SAQA web-site at www.saqa.org.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the Qualification should reach SAQA at the address below and ***no later than 19 January 2009***. All correspondence should be marked **Standards Setting – Curative Health Task Team** and addressed to

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ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION: *Advanced Certificate: Diagnostic Ultrasound*

SAQA QUAL ID	QUALIFICATION TITLE		
64910	Advanced Certificate: Diagnostic Ultrasound		
ORIGINATOR		PROVIDER	
TT - Curative Health			
QUALIFICATION TYPE	FIELD	SUBFIELD	
National Certificate	9 - Health Sciences and Social Services	Curative Health	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	120	Level 6	Regular-ELOAC

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

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of the qualification is to develop a learner with the knowledge and skills required in the area of Diagnostic Ultrasound. Learners will be able to apply such knowledge and skills in the appropriate workplace context.

This qualification is intended for personnel qualified in a related medical field to equip them with the specialised skills necessary to perform the sonographic examinations and assess the results of ultrasound examinations.

Although this Qualification applies to a great extent to the subfield of Curative Health, it is also applicable in the subfield of Rehabilitative Health.

Rationale:

The South African Government is committed to provide a framework for a structured uniform national health care system, and to combine the national health plan and human resource development strategy to provide an effective and efficient system of co-operative governance and management of health care service.

The Department of Health is leading the implementation of a multi-professional team-based approach to health care delivery, where each member of the team has a defined role to ensure there is minimum duplication and overlapping of functions. This process will also ensure that no single member of the team dominates but that different members of the team will lead at different times depending on the services to be rendered.

There are many ultrasound machines in South Africa utilised by personnel who may hold a medical qualification, but who have had no formal ultrasound training. Diagnostic Ultrasound is very operator dependent.

Many professionals have expressed interest in obtaining a registered qualification but, for a variety of reasons, may wish to become competent in applying ultrasound only in a specific area, e.g. midwives performing obstetric scanning.

All learners for this qualification are required to be registered as learners with the relevant professional council for the duration of the period of study.

RECOGNIZE PREVIOUS LEARNING?

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LEARNING ASSUMED IN PLACE

- > Human Anatomy, Physiology and Pathology at NQF Level 5.
- > Ethics and Primary Patient Care at NQF Level 5.
- > Communication at NQF Level 4.

Recognition of Prior Learning:

This qualification may be achieved in part through the recognition of relevant prior learning and/or through prior experience as a practitioner in another field of radiography. Providers are required to develop structured and accredited assessment tools for learners against the exit-level outcomes of the qualification. RPL will be applied on an individual basis and will be conducted in accordance with the institutions' accredited RPL policy and in agreement with the relevant ETQA. Such procedures and the assessment of individual cases are subject to moderation by independent assessors accredited by the relevant ETQA.

Access to the Qualification:

- > Access is open to all learners in possession of a registered relevant health qualification, related to medical ultrasound imaging.
- > Access may also be gained via RPL as determined by the institutions policy and any other relevant body or by articulation.

QUALIFICATION RULES

The Credit Component assigned to this qualification is as follows:

- > 30 credits in the Fundamental component.
- > 80 credits in the Core component.
- > 10 credits in the Elective component. The learner may select one or more of the suggested Electives, or any other Elective agreed to by the provider and the relevant ETQA. Suggested Electives include:
 - > Communication.
 - > Small and medium business enterprises.
 - > Didactics/education.
 - > Applied psychology.

EXIT LEVEL OUTCOMES

1. Apply ultrasound knowledge and practice in a specific clinical setting.
2. Perform appropriate patient care to ensure and maintain patient's welfare.
3. Apply the principles of human rights, ethics and medical law in patient care.
4. Apply resource and information technology skills at the required level.
5. Perform sonographic protocols for the production of optimum quality images.
6. Assess the sonographic images for diagnostic and technical quality and apply pattern recognition to the ultrasound appearances.

7. Apply the correct procedures to ensure the safety all.
8. Perform administrative and managerial functions to provide optimal sonographic service.

Critical Cross-Field Outcomes:

- > Demonstrate understanding of diagnostic ultrasound principles in order to solve practical problems within the Diagnostic Ultrasound context.
- > Identify health problems in the context of Diagnostic Ultrasound and suggest and implement a solution or plan of action in order to solve the problem professionally.
- > Work effectively in collaboration with other health care professionals and where appropriate assume leadership in tasks or projects to assure quality to minimise the risks associated with adverse reactions of both patients and the public.
- > Use Science and Technology effectively to keep up with the current trends and changing needs of Diagnostic Ultrasound and work practices to ensure an efficient functioning and administration.
- > Contribute towards continued professional development of Diagnostic Ultrasound Staff with the view of ensuring that ultrasound equipment and accessories are competently operated in order to optimize the diagnostic capability of the equipment.
- > Reflect on and explore a variety of strategies in order to improve Diagnostic Ultrasound Practice by participating in the social, political and academic debate about how it should be conducted.
- > Communicate effectively in the learning and health care environment to ensure that the patients' needs are recognised, assessed and responded to with due regard to human dignity.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit-Level Outcome 1:

- 1.1 Apply knowledge of anatomy, physiology and pathology to support the range of techniques used in the clinical context.
- 1.2 Apply knowledge of ultra sound to support the choice of equipment and the correct use of controls for quality image production.

Associated Assessment Criteria for Exit-Level Outcome 2:

- 2.2 Apply appropriate Patient Care before, during and after the examination to ensure patient's welfare.
- 2.2 Communicate procedures and requirements to facilitate informed consent.
- 2.3 Perform procedures efficiently and safely to ensure that the medical status of the patient is not adversely affected.

Associated Assessment Criteria for Exit-Level Outcome 3:

- 3.1 Apply the Ethical requirements of a professional medical environment at all times.
- 3.2 Recognise and act upon psychological and cultural considerations of the patient.
- 3.3 Protect and maintain the rights of the patient, as entrenched in the Human Rights Bill, Patients Charter and medical law.
- 3.4 Solve advanced problems to facilitate effective patient management.

Associated Assessment Criteria for Exit-Level Outcome 4:

- 4.1 Enter and retrieve relevant patient data to aid patient management and care.
- 4.2 Apply knowledge and skills to manage technology and resources.
- 4.3 Apply knowledge to build team cooperation and promote cooperative work.

Associated Assessment Criteria for Exit-Level Outcome 5:

- 5.1 Take images necessary to show anatomy relevant to the ultrasound protocol.
- 5.2 Recognise normal and abnormal patterns.
- 5.3 Apply Physical principles of ultrasound and Doppler to produce optimum quality images.
- 5.4 Record all required measurements to allow accurate assessment.
- 5.5 Recognise and minimise imaging artefacts, where possible, to avoid misdiagnosis.
- 5.6 Interpret images using relevant information.
- 5.7 Describe the clinical information and pathology which influence scanning protocols.
- 5.8 Discuss the role of sonography in holistic patient care when further investigations are required.
- 5.9 Perform invasive procedures with the sonographer's assistance.

Associated Assessment Criteria for Exit-Level Outcome 6:

- 6.1 Identify scanning planes for each organ to ensure an optimal examination.
- 6.2 Ensure that images show correct patient and technical information to comply with medico-legal requirements.
- 6.3 Recognise normal sonographic appearances of structures in the specified examinations.
- 6.4 Recognise variations to detect abnormalities.
- 6.5 Describe normal and abnormal appearances (verbally and in written format) to ensure that the information is beneficial for treatment of the patient.
- 6.6 Recognise measurements outside normal parameters to describe abnormalities.

Associated Assessment Criteria for Exit-Level Outcome 7:

- 7.1 Apply general health and safety principles to comply with relevant legislation and regulations.
- 7.2 Apply knowledge of bio-effects and their potential for harm in the performance of scanning protocols, in keeping with the ALARA principle.
- 7.3 Maintain a hygienic and safe workstation to eliminate the risks of cross infection.
- 7.4 Apply personal protective measures to ensure own and patient safety.

Associated Assessment Criteria for Exit-Level Outcome 8:

- 8.1 Apply management principles to ensure effective utilization of sonographic facilities.
- 8.2 Identify broad aspects of quality assurance for implementation in the workplace.
- 8.3 Assess images for maintenance of quality.
- 8.4 Identify equipment malfunction and take appropriate action to effect repairs.
- 8.5 Maintain equipment to ensure an optimal performance which conforms to current health and safety regulations.

Integrated Assessment:

The evaluation of success in achieving the required outcomes is predominantly by continuous assessment of the theoretical, practical and clinical aspects. In this way the learner will undergo a variety of assessment methods to prove the required competence which could include, amongst others, written and oral examinations, OSCE's, researched and practical case studies, assignments, guided self studies, completion of a log book of clinical experience and clinical assessment in the working environment.

All of these assessments will demonstrate whether or not the learner has mastered the theoretical knowledge essential to the practical application in the clinical environment and whether or not they are capable of practicing competently and safely in the specified field of Diagnostic Ultrasound.

INTERNATIONAL COMPARABILITY

Source: National Learners' Records Database

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The primary objective of designing this qualification was to meet the needs of the SA community as identified by the National Department of Health whilst maintaining compatibility with international standards.

The United Kingdom has been in the forefront as far as education and training of ultrasound radiographers is concerned.

The University of West England offers various programmes in Ultrasound. The programmes are Post Graduate Certificate (one year programme), Post graduate diploma (two year programme) and an MSc where the candidate is expected to complete a full dissertation or mini dissertation and an optional ultrasound module. Access to these qualifications is provided to the professionals who hold an Honours degree from a recognized institution of higher learning and a relevant registered health-care qualification.

The courses offered by the Faculty of Health at the University of West England have been designed for various categories of healthcare professionals, and not just for radiographers. Of importance is that candidates who enroll for these qualifications should have a registered healthcare qualification and be eligible for registration in their respective boards or councils on graduating. This is similar to the objective for designing this Qualification for South Africa, viz., to equip appropriately qualified healthcare professionals with the necessary skills and knowledge to serve the SA society better.

A comparison between the UWE and the South African qualifications show the following:

In West England, during the first year of study, all candidates will enroll for the Ultrasound Technology module which carries 20 credits. On successful completion, they may choose to follow a specific pathway in one of the following areas, General Medical Ultrasound, Vascular Ultrasound or Obstetrics and Gynaecology. Each of these modules carries 40 credits.

With regard to the SA qualification, the learners will have to specify the elective or specialty area in which they wish to qualify. This will be in addition to the basics of Ultrasound Imaging, Biomedical Sciences and Patient Care principles which include Ethics, Human Rights and Medical Law. The learners will be informed at the start of the course of the limitations in terms of the scope of practice that will be determined by the chosen elective.

One of the differences between the UK and SA qualifications lies in the number of credits carried by the various components that comprise the qualification. This is due to the additional competencies offered in SA, such as patient care principles. Another difference relates to the need in the UK model to complete a research module which carries 20 credits. This is not applicable to the SA Qualification. Research in Radiography: Ultrasound is conducted by learners with a Bachelor's degree who have enrolled for the Master's degree.

Different specialty options offered in the UK are:

- > Obstetrics and Gynaecology ultrasound.
- > Negotiated specialist ultrasound practice in Obstetrics and Gynaecology.
- > Vascular ultrasound.
- > General Medical Ultrasound.

South Africa may also offer specialty options, depending on the needs of the community as well as the ability of the institutions of higher learning to offer these. Possible specialties may include:

- > Obstetrics and Gynaecology ultrasound.
- > Vascular ultrasound.
- > Musculo-skeletal ultrasound.
- > Abdominal ultrasound.

> Paediatric ultrasound.

In the UK, it is the learner's choice to do a full 2 year programme which may include another module in addition to the one taken in the first year. Alternatively the learner may choose to do a negotiated specialist Ultrasound Practice plus a Health and Social Care Research project.

For the SA Qualification, all successful candidates will exit on completion of the 120 credit programme. Should the learner wish to gain knowledge and skills in another elective, RPL according to the institution of higher learning's policy will be applied to offer the learner an opportunity to study. This will also depend on the ability and feasibility of the institution to offer the course.

Nature of how the UK qualification is offered is not specified. It is only specified that the learners should be registered with their respective Professional bodies/Councils.

In SA the Qualification will be offered on a part-time basis with a number of compulsory contact times. Learners are expected to be registered with the relevant Professional Council for the duration of their training.

For clinical training and supervision, both in SA and the UK, the learner, prior to being accepted for the programme, needs to secure a clinical training site as well as an appropriately qualified and registered healthcare professional to act as supervisor. The clinical training hours necessary to meet the competency standards are determined by the registration authority or relevant Professional Council.

In both countries, assessments are conducted in both the theoretical and clinical environments. For the UK, the education programme has been accredited by the Consortium for the Accreditation of Sonographic Education (CASE). In SA, accreditation is provided by the relevant Professional Council which is the registration authority for all categories of radiographers.

In Australia, Curtin University offers a one year full-time course at Honours Level. This course is available to radiographers from various categories in possession of a four year undergraduate qualification, Bachelor of Science (Medical Imaging Science). To be awarded an Honours degree, the candidate should complete ultrasound courses like Instrumentation, Medical Imaging Science (specific to Ultrasound) and a dissertation in the category of Ultrasound.

The university further offers a course at Masters Level, which is made available to professionals from other disciplines. This is offered on a full-time basis for the duration of two years. Based on the entrance requirements specified for this course, it compares well with the proposed South African Advanced Certificate: Diagnostic Ultrasound. The only difference is that SA offers the programme on a part-time basis.

Graduates from these programmes receive full accreditation from the Australian Institute of Radiography.

Conclusion:

The Advanced Certificate: Diagnostic Ultrasound compares favourably with similar programmes offered in the United Kingdom and Australia. The Qualification further addresses the needs of the South African community in providing quality healthcare especially in primary healthcare centres.

ARTICULATION OPTIONS

There is no equivalent qualification at present which provides horizontal articulation with this Qualification.

Vertically, this Qualification articulated with:

> ID 63449: Bachelor: Radiography: Diagnostic Ultrasound, NQF Level 7.

MODERATION OPTIONS

> Assessments are conducted by one or more internal assessors/examiners employed by the relevant provider as well as an external moderator appointed from industry/other academic institution.

> Practicing practitioners, registered with the relevant Professional Council and in possession of a Professional degree in Radiotherapy at a level higher than this qualification may be appointed as moderators and/or assessors.

NOTES

N/A

UNIT STANDARDS

This qualification is not based on Unit Standards.

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION

None