No. 1220 **21 December 2009**

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

Medical Technology

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

This notice contains the titles, fields, sub-fields, NQF levels, 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 29 January 2010.*** All correspondence should be marked **Standards Setting – Task Team for Medical Technology** and addressed to

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ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

QUALIFICATION:
Bachelor: Medical Laboratory Sciences

SAQA QUAL ID	*QUALIFICATION TITLE*		
77083	Bachelor: Medical Laboratory Sciences		
ORIGINATOR		*PROVIDER*	
TT - Medical Technology			
QUALIFICATION TYPE	*FIELD*	*SUBFIELD*	
Professional Qualification	9 - Health Sciences and Social Services	Curative Health	
ABET BAND	*MINIMUM CREDITS*	*NQF LEVEL*	*QUAL CLASS*
Undefined	502	Level 7	Regular-ELOAC

New NQF Level: NQF Level 08

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 intended to develop the academic skills, values and attributes necessary to create a practitioner with solid ethical principles and a desire for life-long learning. It will enable successful learners to become medical laboratory scientists who are employed in laboratory diagnostic services and who are able to successfully undertake research.

This Qualification will lead the learner through six focus areas that contribute to the main objectives of the medical laboratory sciences and which are reflected in the Qualification, viz:

- Diagnostic techniques required for the diagnosis and subsequent treatment of patients.
- Keeping a breast of new trends in technology, equipment and diagnostic methodology to ensure continued professional development of the medical laboratory scientist and in turn, promote improved health services to society.
- Developing research potential to place South African medical services at the forefront of international patient care.
- Developing management and quality assurance skills required for effective, efficient and sustained delivery of quality laboratory services supporting the medical profession.
- Ethical and safety considerations required to underpin the profession.
- Empathy and communication skills required by practitioners to deliver relevant and accurate information to the different health care participants and sectors.

On completion of this qualification, the graduate will be able to:

- Integrate laboratory tests with pathophysiological conditions in a chosen field of specialisation in accordance with statutory and operational requirements.
- Critically evaluate current and new trends in technology to improve practices and to solve problems in a variety of contexts.
- Conduct research in the field of medical laboratory sciences, in compliance with legislated and ethical research principles.
- Apply management and entrepreneurship skills in the context of medical laboratory sciences.

Compliance with statutory requirements including quality, ethics and safety underpin all exit level outcomes.

Successful completion of this qualification will enable the graduate to register with the Health Professions Council of South Africa (HPCSA) as a Medical Laboratory Scientist.

Rationale:

The medical laboratory scientist plays an integral role in the healthcare of society. The health sector relies on the effective diagnosis and management of patient care, as well as the implementation and management of a legislative framework that protects people's rights to reliable and accurate healthcare services. Qualified medical laboratory scientists are specialised health professionals who provide vital information about a patient's state of health. Their input is necessary in the diagnosis, monitoring and treatment of disease. The analytical and diagnostic services provided by medical laboratory scientists require a strong scientific knowledge, as well as trained reasoning ability and empathy for humanity.

There is a critical shortage in South Africa of highly skilled and suitably qualified medical laboratory scientists as a health care resource. This Qualification has been structured to meet that need through the development of higher level competencies associated with a professional degree at NQF Level 8.

The acquisition of advanced competencies is required by the sector in order to meet the legislative and operational requirements of the Health Professions Council of South Africa (HPCSA). The flexibility of career pathing for medical laboratory scientists, both vertically and horizontally, is possible through personal growth and job advancement within and across the health sector. Therefore the qualification provides for learners with operational competencies as well as management skills, including supervision, mentoring and leadership.

A variety of organisations operate within the health care sector, including a number of national departments; provincial and local health authorities; private and public laboratory services; forensic laboratories; medical research laboratories; medical practitioners, inter alia doctors specialists, dentists; pharmaceutical companies; medical supply companies and the medical laboratory scientist plays a vital role in all of these areas.

RECOGNIZE PREVIOUS LEARNING?
Y

LEARNING ASSUMED IN PLACE
It is assumed that learners accessing this qualification are competent in:

- Communication at NQF Level 4.
- Mathematics at NQF Level 4.
- Physical Sciences at NQF Level 4.
- Life Sciences at NQF Level 4.

Recognition of Prior Learning:

This Qualification may be achieved in part through the Recognition of Prior Learning. Evidence must be presented on application for recognition of prior learning and may take the form of verified testimonials, or other appropriate evidence, such as verified accounts of previous relevant work experiences or performance records.

All recognition of prior learning is carried out in accordance with the policies and procedures of the providing institution and in agreement with the relevance ETQA.

Access to the Qualification:

Learners accessing this Qualification will be expected to be in possession of a National Senior Certificate with Matriculation exemption, a relevant Further Education and Training Certificate, or equivalent NQF Level 4 qualification and comply with the selection policy of the relevant provider in agreement with the relevant Education and Training Quality Assurance body (ETQA).

It is recommended that applicants are fluent in English, as all major learning material is only available in that language medium.

QUALIFICATION RULES

All the Exit Level Outcomes must be achieved for the learner to be awarded the Qualification.

EXIT LEVEL OUTCOMES

1. Perform and integrate laboratory tests with pathophysiological conditions in a specific field of specialisation in accordance with statutory and operational requirements.
• Range of specialisations include: Medical Microbiology; Virology; Clinical Chemistry; Haematology; Clinical Pathology; Blood Transfusion Technology; Cytology; Histopathology; Cytogenetics; Immunology; Pharmacology; Forensic Medicine.

2. Evaluate current and new trends in technology to improve practices and to solve problems in a variety of contexts.
• Range of areas for evaluation include but are not limited to: Usefulness and practicality of equipment and methodologies in relation to laboratory constraints, integration with existing equipment, space, budgeting, standard operating procedures, laboratory safety procedures, infection control methods.

3. Conduct research in the field of medical laboratory sciences in compliance with legislated and ethical research principles.

4. Apply management and entrepreneurship skills in the context of medical laboratory sciences.

Critical Cross-field Outcomes:

This Qualification addresses the following Critical Cross-field Outcomes, in the indicated Exit Level Outcomes.

• Identifying and solving problems is demonstrated in the process of performing laboratory tests, investigating new techniques and applying these in the workplace.
• Working effectively with others is demonstrated in the maintenance of laboratory etiquette and the adherence to ethical practices.
• Organising and managing oneself and one's activities responsibly and effectively is demonstrated in the presentation of a technically correct and valid research project.
• Collecting, analysing, organising and critically evaluating information is demonstrated in the application of the rules and principles of scientific investigation and supplying valid laboratory test results.
• Communicating effectively is demonstrated throughout all communication with stakeholders involved in health, laboratory functions and successful institutional management functions.
• Using science and technology effectively and critically is demonstrated in the preparation, analysis, investigation and reporting of findings of human tissue specimens.
• Demonstrating an understanding of the world as a set of related systems is demonstrated through the proper application of systems, policies and procedures related to laboratory work and practices within the functioning of the general health industry business processes.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

1.1 Routine and specialised diagnostic techniques (including molecular biology techniques) in a specific field are selected, performed, interpreted and integrated in accordance with statutory requirements and situational standard operating procedures.
1.2 Laboratory results are evaluated through correlation of data in the context of the principles, techniques and instruments used.
1.3 Factors that affect procedures and test results are recognised and appropriate action is taken to nullify these.
1.4 Laboratory results are interpreted through correlation of data with physiological and pathophysiological conditions.
1.5 Findings are evaluated, interpreted and integrated through application of an in-depth knowledge of disease processes.
1.6 Equipment is monitored for efficient functioning and appropriate action is taken when necessary.
1.7 Laboratory safety procedures, including infection control, are described and applied throughout all operating procedures.
1.8 Quality assurance procedures are described and applied throughout all operating procedures.

Associated Assessment Criteria for Exit Level Outcome 2:

2.1 The constraints within a given laboratory are analysed, synthesised and evaluated relative to the services required of the facility.
2.2 The use of new equipment is learned in depth to obtain the maximum use thereof.
2.3 Appropriate new techniques and methods are recommended on the basis of methodological scientific principles.
2.4 New techniques and methods which have been written up an/or presented formally are analysed, recommended with motivation and applied where applicable.

Associated Assessment Criteria for Exit Level Outcome 3:

3.1 Research needs within the chosen specialisation in the field of medical laboratory sciences are appropriately identified, articulated and investigated.
3.2 Appropriate research methods are applied.
3.3 Applicable literature is reviewed and documented according to accepted scientific practices.
3.4 Data is accurately collected, analysed and interpreted using appropriate qualitative and/or quantitative techniques.
3.5 Research findings are evaluated and conclusions and recommendations, based on sound theoretical principles, are formulated.
3.6 A research report is produced and presented in accordance with the required institutional research guidelines.

Associated assessment Criteria for Exit Level outcome 4:

4.1 Human, infrastructural, operational and financial resources are analysed and managed efficiently and effectively.
4.2 A business plan for a new medical laboratory service is developed, approved and implemented within a structured situation.
4.3 Principles of entrepreneurship skills are explained in terms of the proposed business model.
4.4 Current, relevant legislation is explained and applied where applicable, such as within the proposed business plan.
4.5 All clinical interactions and related activities are aligned with the provisions and rules of the relevant institution and the codes of ethics of the HPCSA and relevant professional associations.
4.6 All manner of communication, including appropriate use of electronic media and medical terminology, with patients, colleagues and other service providers, is clear, direct and accurate and delivered in terms of maintaining patient confidentially.