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**SOUTH AFRICAN QUALIFICATIONS AUTHORITY
REGISTERED QUALIFICATION:**

Master of Clinical Technology

| | | | | |
|---|--|----------------------------------|--------------------------------|------------------------------|
| SAQA QUAL ID | QUALIFICATION TITLE | | | |
| 65429 | Master of Clinical Technology | | | |
| ORIGINATOR | | ORIGINATING PROVIDER | | |
| Task Team - Radiography and Clinical Technology | | | | |
| QUALITY ASSURING BODY | | | | |
| - | | | | |
| QUALIFICATION TYPE | FIELD | | SUBFIELD | |
| Masters Degree | Field 09 - Health Sciences and Social Services | | Curative Health | |
| ABET BAND | MINIMUM CREDITS | PRE-2009 NQF LEVEL | NQF LEVEL | QUAL CLASS |
| Undefined | 180 | Level 8 and above | NQF Level 09 | Regular-ELOAC |
| REGISTRATION STATUS | | SAQA DECISION NUMBER | REGISTRATION START DATE | REGISTRATION END DATE |
| Reregistered | | SAQA 0695/12 | 2012-07-01 | 2015-06-30 |
| LAST DATE FOR ENROLMENT | | LAST DATE FOR ACHIEVEMENT | | |
| 2016-06-30 | | 2019-06-30 | | |

In all of the tables in this document, both the pre-2009 NQF Level and the NQF Level is shown. In the text (purpose statements, qualification rules, etc), any references to NQF Levels are to the pre-2009 levels unless specifically stated otherwise.

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

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

This qualification is intended for persons who will make a contribution, through independent research,

advanced problem-solving skills and critical, reflective thinking to perform research in a chosen field of Clinical Technology (i.e. either Cardiology, Cardiovascular Perfusion, Critical Care, Pulmonology, Nephrology, Neurology or Reproductive Biology) and present their findings in a report that meets the accepted criteria and ethical principles for the profession. The research problem, its justification, process and outcome should be reported in a dissertation that complies with the generally accepted norms for research at the Master level. In this way they will make a contribution to the existing body of knowledge for radiography ranging from fundamental concepts to advanced theoretical or applied knowledge that will develop and advance the profession of Clinical Technology.

Rationale:

The South African government has expressed a need for both a specialised clinical technologist who can operate independently at an advanced level in Clinical Technology departments as well as those who will make a contribution, through independent research in a chosen field. This qualification has been structured to meet that need and provide for research within Clinical Technology through the inclusion of a research dissertation that complies with the accepted norms, criteria and ethical principles for research at that level. Learners obtaining this qualification will be able to conduct research within the field of Clinical Technology and present their findings at local and international conferences/seminars as well as publish them in accredited publications. This is in keeping with the government's need for education to develop the area of science and technology.

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

Successful completion of the Bachelors Degree in Clinical Technology (480 credits). A basic knowledge of the fundamental principles and concepts of research and statistical methods is required.

RPL would be recognized on submission of a suitable portfolio of evidence.

Recognition of Prior Learning:

Recognition of prior learning will be conducted on an individual basis accordance with the institutional and ETQA RPL policies. Providers are required to develop structured and accredited means for the assessment of individual learners against the exit-level outcomes of the qualification. Such procedures and the assessment of individual cases are subject to moderation by independent moderators, in agreement with the relevant ETQA.

Access to the Qualification:

Successful completion of a 480 credit Bachelors Degree in Clinical Technology or equivalent qualification in accordance with the selection protocol of the educational institution or through recognition of prior learning (RPL). Evidence of prior learning may be presented in a format agreed to by the relevant provider or the relevant Education and Training Quality Assurance (ETQA) or ETQA that has a Memorandum of Understanding in place with the relevant ETQA.

RECOGNISE PREVIOUS LEARNING?

Y

QUALIFICATION RULES

A research dissertation, comprising at least one half of the total number of credits to be produced at the appropriate level.

EXIT LEVEL OUTCOMES

The Clinical Technologist will master the following Exit Level Outcomes:

1. Analyse and critically evaluate the literature relevant to the field/area of investigation.

2. Apply appropriate research methods and techniques independently and effectively in the research process to solve complex problems and/or acquire advanced understanding in a chosen focus area.

3. Report research findings in an applicable format, demonstrating advanced understanding and competency in the chosen focus area.

Critical Cross-Field Outcomes:

- Identify and solve problems and think critically and creatively in designing, executing and reporting on a specialised area of Clinical Technology.
- Collect, organise, analyse and evaluate information by data collection and its synthesis into a logical contribution to the knowledge in the particular field chosen for the study.
- Work effectively with specialised scientists in the particular field at a high academic level.
- Manage one's own time to achieve execution of a research plan and integrate all the conflicting information pertinent to the study.
- Communicate, particularly in scientific terms, in internationally acceptable style both verbally and in written reports and publications.
- Using science and technology to contribute to the knowledge and understanding in the field is an overt outcome of this qualification.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

- Relevant and recent literature on the research topic is gathered from a wide variety of sources and critically evaluated in terms of relevance and recent trends in technologies, techniques, models and theories.
- Various models, principles and theories in the chosen field are critically analysed, evaluated and discussed in the literature review.

Associated Assessment Criteria for Exit Level Outcome 2:

- A research proposal is compiled and presented in accordance with the faculty research policies and procedural criteria.
- Appropriate research design and methodology are selected, described and justified in terms of the research problem.
- Medical and research ethics and legal issues pertinent to research in technology are critically reflected on, included in the proposal and adhered to during the research process.
- Data is gathered using the selected methodology.
- Data is analysed using the relevant statistical or other tools.
- Research results are critically analysed, evaluated and discussed.

Associated Assessment Criteria for Exit Level Outcome 3:

- The dissertation is written up and presented according to specified criteria.
- Information technology is applied effectively in the production of the dissertation/research report.
- Language and numeracy skills are applied effectively and correctly in clearly communicating the research problem, its investigation, the outcome, and the recommendations.
- Findings are communicated to a professional audience through oral/poster presentations and/or institutional seminars and/or publications.

INTERNATIONAL COMPARABILITY

The South African government has expressed a need for both a specialist Clinical Technologist who can operate independently at an advanced level in the various categories of clinical technology as well as those who will make a contribution, through independent research in a chosen field. The developed qualification should further be comparable with qualifications offered elsewhere in the world. This will

ensure that South Africa is on par with international trends and that the students who graduate with these qualifications will have employment both nationally and internationally. This qualification was compared to those offered in America and the United Kingdom (UK). Documents on international as well as national curricula have been consulted.

Masters Degree Programmes: United State of America (USA):

A college graduate with a Bachelors Degree may find that degree insufficient for the type of profession sought. It may often be necessary to pursue an advanced degree, such as a USA master's degree or USA doctorate (also known as PhD) degree, to advance one's career. For example, a USA master's degree may be necessary if one is seeking a position as an economist with local government, or one may need a PhD degree to teach at a university. Not all USA colleges and universities offer USA master's degree programmes. Even fewer offer USA PhD degree programmes. In addition, the number of majors offered at the graduate level by a graduate school will usually be much smaller than the number of majors at the undergraduate level. Occasionally, a school will only offer a major at the graduate programme level.

The USA master's degree is a graduate school degree that typically requires two years of full-time graduate school coursework to complete. Unlike students pursuing a bachelor's degree, students in a master's degree programme will complete courses that are highly focused in their field of study (the major). As such, students must have already decided on a major before applying for acceptance in a master's degree programme. One of the compulsory components is research methods and statistics. Some master's degree programmes also require a thesis, which is much simpler and shorter than the PhD programme thesis.

In the USA and Canada, a learner holding a Bachelor of Science Degree in cardiology/perfusion, who enters a master's programme will receive a Master's degree from the relevant University. Upon successful completion of the cardiology/perfusion rotations.

Masters Degree Programmes: United Kingdom (UK):

In the UK those who have completed a 4-year degree in Clinical Physiology in either Cardiology, Cardiovascular Perfusion or Neurophysiology have direct access to the master's degree in the specific specialisation. In some Universities, e.g. Liverpool University, the masters degree programme comprises a research dissertation, whereas in others it is based on course work and a mini-dissertation. The Trinity College offers an M Sc degree in cardiology. This course is of either two or three year's duration and is designed to provide a high level of postgraduate training for doctors wishing to become trained in non-invasive and invasive cardiology. Applicants will have a M.R.C.P.1. or equivalent qualification. The course aims to provide the theoretical knowledge, technical skills and research skills necessary to run a comprehensive cardiac service. It consists of lectures, clinically supervised practical procedures in the management of the cardiac patient, and a research project or dissertation. The course is assessed by examination, continual assessment and assessment of the research project or dissertation.

Besides the master's degree offered by the Liverpool University, none of the above has a full research masters as the one developed in South Africa. The professional masters degrees offered in both the USA and UK compare favorably to the Bachelors Degree in Clinical Technology. This Master's Qualification is in line with similar qualifications offered by health care professions in South Africa. This is due to the need for South Africans to conduct research in an attempt to improve the knowledge base of the professionals and contribute to high quality service delivery.

Conclusion:

This Qualification has been structured to meet the needs of South Africa and provide for research within Clinical Technology through the inclusion of a research dissertation that complies with accepted norms, criteria and ethical principles for research. This will prepare successful learners to conduct research at doctoral level and to continue with further research thereafter. This Qualification compares well with similar international qualifications as learners who have completed the masters degree in South Africa are able to pursue a doctoral qualification in universities overseas, such as the University of Minnesota.

ARTICULATION OPTIONS

Doctorate Degree (PhD) in Clinical Technology or other related qualifications.

MODERATION OPTIONS

- Continuous assessment will be used to assess the learner's performance. The learner will be afforded opportunities to improve performance through formative assessment before summative assessment is performed.
- Summative assessment and moderation will be conducted by specifically appointed internal/external assessors/moderators in accordance with institutional policy and procedures. Assessors are to be accredited by the relevant ETQA and relevant Professional Council.
- Assessors and moderators are expected to be in possession of a relevant qualification at least at the level of this qualification or above and have relevant experience in this field of training.
- Assessors and moderators are also expected to have appropriate research/teaching/academic/clinical experience in the appointed discipline.

Providers offering learning towards this qualification must be accredited by the relevant ETQA or ETQA that has Memorandum of Understanding (MoU) in place with the relevant ETQA.

CRITERIA FOR THE REGISTRATION OF ASSESSORS

N/A

NOTES

As per the SAQA decision, after consultation with the Quality Councils, to re-register all qualifications and part qualifications on the National Qualifications Framework that meet the criteria for re-registration, this qualification has been re-registered from 1 July 2012.

Course Requirements:

Successful completion of the qualification will enable the learner to register with the relevant professional council as a Clinical Scientist in either Critical Care, Cardiology, Cardiovascular Perfusion, Nephrology, Neurology, Pulmonology or Reproductive Biology.

UNIT STANDARDS:

This qualification is not based on Unit Standards.

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION:

NONE

PROVIDERS CURRENTLY ACCREDITED TO OFFER THIS QUALIFICATION:

This information shows the current accreditations (i.e. those not past their accreditation end dates), and is the most complete record available to SAQA as of today. Some Quality Assuring Bodies have a lag in their recording systems for provider accreditation, in turn leading to a lag in notifying SAQA of all the providers that they have accredited to offer qualifications and unit standards, as well as any extensions to accreditation end dates. The relevant Quality Assuring Body should be notified if a record appears to be missing from here.

NONE

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