

# BACHELOR OF RADIOGRAPHY IN DIAGNOSTICS

(Qualification type: Professional Bachelor's Degree)

BRad (Diagnostics) - NQF Level 8 (550 credits)

Qualification code: BPRA20

SAQA ID: 112055, CHE NUMBER: H/H16/E135CAN

Campus where offered:

Arcadia Campus

## REMARKS

a. *Admission requirement(s) and selection criteria:*

Acceptance is subject to availability of clinical student posts at the different co-operative clinical training facilities, accredited by the Health Professions Council of South Africa (HPCSA) as well as capacity according to the Student Enrolment Plan (SEP). Once a programme is full, a waiting list will be in place to provide an opportunity for applicants to fill places of those who did not register on time. Applicants will be informed of their status per official letter from the Office of the Registrar, alternatively, they can check their application status on the TUT website, [www.tut.ac.za](http://www.tut.ac.za).

• **APPLICANTS WHO OBTAINED A NATIONAL DIPLOMA AT NQF LEVEL 6:**

Applicants who completed a relevant national diploma (at NQF Level 6) and who graduated and proceeded to work in industry can apply. Applicants should follow an articulation process in which exemption will be granted for 50% of the credits of the completed (and conferred) national diploma. Detailed information on the process to follow is available at the relevant academic department.

• **APPLICANTS WHO OBTAINED A SENIOR CERTIFICATE BEFORE 2008:**

**Admission requirement(s):**

A Senior Certificate with a matriculation endorsement or equivalent qualification, with an E symbol at Higher Grade or a D symbol at Standard Grade for English, Mathematics, Physical Science and Biology or Physiology.

**Selection criteria:**

To be considered for this qualification, candidates must have an Admission Point Score (APS) of at least **24**.

• **APPLICANTS WHO OBTAINED A NATIONAL SENIOR CERTIFICATE IN OR AFTER 2008:**

**Admission requirement(s):**

A National Senior Certificate or an equivalent qualification, with a bachelor's degree endorsement, or an equivalent qualification, with an achievement level of at least 4 for English (home language or first additional language), 4 for Mathematics or Technical Mathematics, 4 for Physical Sciences or Technical Sciences and 4 for Life Sciences.

**Selection criteria:**

To be considered for this qualification, candidates must have an Admission Point Score (APS) of at least **24** (excluding Life Orientation).

b. *Assessment procedure(s):*

**For 2022:** Candidates will be selected based on their relevant APS scores.

**As from 2023:** Applicants will be invited for a TUT Potential Assessment Test (TUTPTA) and depending on the results will be invited for an interview. The APS will contribute 60%, the TUT Potential Assessment will contribute 20% and the interview will contribute 20% of the final score.



- c. *Recognition of Prior Learning (RPL), equivalence and status:*  
See Chapter 30 of Students' Rules and Regulations.
- d. *Intake for the qualification:*  
January only.
- e. *Presentation:*  
Day classes.
- f. *Minimum duration:*  
Four years.
- g. *Exclusion and readmission:*  
See Chapter 2 of Students' Rules and Regulations.
- h. *Other requirements:*  
Immunisation against Hepatitis B is compulsory. A valid first-aid certificate is required. The University will arrange a first-aid programme. International students will be assessed by the Department to determine enrolment for this qualification.
- i. *Special qualification rules:*  
Special qualification rules apply, and students who register for this qualification will receive the rules with their letter of acceptance. It is the students' own responsibility to familiarise themselves with those rules.
- j. *Professional registration:*  
Compulsory once-off registration with the Health Professions Council of South Africa (HPCSA) as a student radiographer.
- k. *Practicals:*  
100% attendance is compulsory for all practical classes. Students must pass the practical component of a subject to obtain admission to sit for the examination.
- l. *Personal protective equipment:*  
Specific safety wear is compulsory in the practical laboratories.
- m. *Community service:*  
As stipulated by the National Department of Health, students must render compulsory community service (twelve months) on completion of the basic learning programme (four years).
- n. *Compulsory Workplace-based learning:*  
Compulsory Workplace-based learning will take place from year two to year four at HPCSA-accredited clinical training facilities.

## CURRICULUM

### FIRST YEAR

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
11P105X	Communication for Academic Purposes	(5)	(10)	
CPL105X	Computer Literacy	(5)	(10)	
CRP105P	Clinical Radiographic Practice I	(5)	(12)	
FLF125P	Foundation Life Skills (block module)	(5)	(2)	
HAN105P	Human Anatomy I	(5)	(18)	
HPY105P	Human Physiology I	(5)	(18)	
MAS105X	Mathematics and Statistics I	(5)	(12)	
RD1105P	Radiographic Imaging I	(5)	(12)	
RPT105P	Radiographic Practice I	(5)	(12)	

**FIRST SEMESTER**

CHS115P	Chemistry for Health Sciences I	(5)	(12)
PHS115P	Physics for Health Sciences I	(5)	(12)

**SECOND SEMESTER**

RPH115P	Research Principles I	(5)	(6)
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TOTAL CREDITS FOR THE FIRST YEAR: **136**

**SECOND YEAR**

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
CRP206P	Clinical Radiographic Practice II	(6)	(24)	Chemistry for Health Sciences I Clinical Radiographic Practice I Physics for Health Sciences I Radiographic Imaging I Radiographic Practice I
HAN206P	Human Anatomy II	(6)	(18)	Human Anatomy I
HPY206P	Human Physiology II	(6)	(18)	Human Physiology I
RDI206P	Radiographic Imaging II	(6)	(18)	Physics for Health Sciences I Radiographic Imaging I
RDQ206P	Radiation Physics, Protection, and Diagnostic Imaging Equipment II	(6)	(24)	Physics for Health Sciences I Radiographic Imaging I
RPT206P	Radiographic Practice II	(6)	(24)	Chemistry for Health Sciences I Clinical Radiographic Practice I Radiographic Imaging I Radiographic Practice I
RPY206P	Radiographic Pathology II	(6)	(18)	Human Anatomy I Human Physiology I

**FIRST SEMESTER**

RPH216P	Research Principles II	(6)	(6)	Research Principles I
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TOTAL CREDITS FOR THE SECOND YEAR: **150**

**THIRD YEAR**

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
CRP307P	Clinical Radiographic Practice III	(7)	(24)	Clinical Radiographic Practice II Human Anatomy II Human Physiology II Radiation Physics, Protection, and Diagnostic Imaging Equipment II Radiographic Imaging II Radiographic Pathology II Radiographic Practice II
HAM307P	Health Care Administration and Management I	(7)	(12)	
RDI307P	Radiographic Imaging III	(7)	(24)	Radiographic Imaging II Radiation Physics, Protection, and Diagnostic Imaging Equipment II
RPH307P	Research Principles III	(7)	(6)	Research Principles II



RPT307P	Radiographic Practice III	(7)	(24)	Clinical Radiographic Practice II Human Anatomy II Human Physiology II Radiographic Imaging II Radiographic Pathology II Radiographic Practice II
RPY307P	Radiographic Pathology III	(7)	(12)	Clinical Radiographic Practice II Human Anatomy II Human Physiology II Radiographic Pathology II Radiographic Imaging II Radiographic Practice II
SAP307P	Sectional Anatomy and Pattern Recognition III	(7)	(12)	Clinical Radiographic Practice II Human Anatomy II Human Physiology II Radiographic Imaging II Radiographic Pathology II Radiographic Practice II
SRI307P	Specialised Radiographic Imaging Equipment III	(7)	(18)	Radiation Physics, Protection, and Diagnostic Imaging Equipment II
TOTAL CREDITS FOR THE THIRD YEAR:			<b>132</b>	

#### FOURTH YEAR

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
CRP408P	Clinical Radiographic Practice IV	(8)	(12)	Clinical Radiographic Practice III Radiographic Imaging III Radiographic Pathology III Radiographic Practice III Sectional Anatomy and Pattern Recognition III Specialised Radiographic Imaging Equipment III
RDI408P	Radiographic Imaging IV	(8)	(12)	Radiographic Imaging III
RPH408P	Research Principles IV and Project	(8)	(30)	Research Principles III
RPT408P	Radiographic Practice IV	(8)	(24)	Clinical Radiographic Practice III Radiographic Practice III
SAP408P	Sectional Anatomy and Pattern Recognition IV	(8)	(12)	Radiographic Pathology III Sectional Anatomy and Pattern Recognition III

**plus one of the following modules:**

CRM408P	Clinical Radiographic Education and Mentoring	(8)	(18)	Clinical Radiographic Practice III Radiographic Practice III
MRI408P	Magnetic Resonance Imaging (MRI)	(8)	(18)	Radiographic Pathology III Sectional Anatomy and Pattern Recognition III Specialised Radiographic Imaging Equipment III

**plus two of the following modules:**

FRG408P	Forensic Radiography	(8)	(12)	Clinical Radiographic Practice III Radiographic Practice III
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HAM408P	Health Care Administration and Management II	(8)	(12)	Health Care Administration and Management I
MGY408P	Mammography	(8)	(12)	Radiographic Pathology III Sectional Anatomy and Pattern Recognition III Specialised Radiographic Imaging Equipment III
TOTAL CREDITS FOR THE FOURTH YEAR:			<b>132</b>	
TOTAL CREDITS FOR THE QUALIFICATION:			<b>550</b>	

## MODULE INFORMATION (OVERVIEW OF SYLLABUS)

The syllabus content is subject to change to accommodate industry changes. Please note that a more detailed syllabus is available at the Department or in the study guide that is applicable to a particular module. At time of publication, the syllabus content was defined as follows:

### C

#### **CHEMISTRY FOR HEALTH SCIENCES I (CHS115P)**

**1 X 3-HOUR PAPER**

*(Module custodian: Department of Chemistry)*

This module prepares the student to understand and use fundamental concepts in chemistry. The student will be able to apply his/her knowledge of atomic theory, nomenclature, stoichiometry, chemical equilibrium, organic chemistry and gases and liquids to basic chemistry related problems. Upon completion, the student will be able to discuss fundamental concepts in chemistry and do related calculations. (Total notional time: 120 hours)

#### **CLINICAL RADIOGRAPHIC EDUCATION AND MENTORING (CRM408P)**

**CONTINUOUS ASSESSMENT**

*(Module custodian: Department of Biomedical Sciences)*

This module prepares the student to acquire forefront knowledge of all aspects relating to clinical teaching, learning and mentoring for the purpose to attain practical and professional competence of radiography students in the workplace. The student will be able to apply his/her knowledge of Work Integrated Learning, Strategies of teaching and learning, Clinical assessment practices, Reflection-in and -on learning experiences, as well as the successful mentoring and coaching of students during the clinical training phase. Furthermore, through the integration of the theoretical and practical component of this module, the student will acquire knowledge, skills, and values in clinical practice to manage him/herself on an elevated professional level, as well as the awareness to take responsibility for the learning of others in a professional career environment, contributing to high quality clinical radiography education. (Total notional time: 180 hours)

#### **CLINICAL RADIOGRAPHIC PRACTICE I (CRP105P)**

**CONTINUOUS ASSESSMENT**

*(Module custodian: Department of Biomedical Sciences)*

This module prepares the student to integrate basic radiographic knowledge to ultimately become professional, competent radiographers who are able to work in a multi-disciplinary health environment. The student will be able to apply his/her knowledge of Clinical Radiographic Practice within simulated environments. This module is an integrated theory and WIL module with the emphases mainly on Workplace-based learning. (Total notional time: 120 hours)

#### **CLINICAL RADIOGRAPHIC PRACTICE II (CRP206P)**

**CONTINUOUS ASSESSMENT**

*(Module custodian: Department of Biomedical Sciences)*

This module prepares the student to integrate basic and specialised radiographic knowledge to ultimately become professional, competent radiographers who are able to work in a multi-disciplinary health environment. The student will be able to apply his/her knowledge of Clinical Radiographic Practice within simulated and clinical environments. The student will furthermore be able to apply his/her knowledge of the field of medical law, bioethics and human rights, as well as the integrated field of psychodynamics, to clinical professional practice in a healthcare context. This module displays an integration of clinical-orientated theoretical knowledge and Workplace-based learning. (Total notional time: 240 hours)



**CLINICAL RADIOGRAPHIC PRACTICE III (CRP307P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to integrate, demonstrate and apply specialised radiographic knowledge and skills to ultimately become professional, competent radiographers who are able to work in a multi-disciplinary health environment. The student will be able to apply his/her integrated and applied knowledge of Anatomy, Physiology, Advanced Pathology, Pattern Recognition, Imaging, basic research and computer literacy within clinical radiography environment. This module is a clinical orientated theory and WIL integrated module with the emphases mainly on Workplace-based learning. (Total notional time: 240 hours)

**CLINICAL RADIOGRAPHIC PRACTICE IV (CRP408P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to apply, integrate, and demonstrate in depth forefront knowledge, skills and applicable attitudes to a range of advanced imaging modalities and associated advanced technology in the field of Diagnostic Radiography, to be able to authentically perform specified specialised diagnostic examinations and procedures required at this level and also required for the student to become a highly skilled qualified diagnostic radiographer who can work independently in a multi-disciplinary health environment. The student will furthermore be able to apply his/her knowledge of medical law, bioethics and human rights to clinical professional practice, as well as the psycho-dynamics of patient management in a healthcare context. All previously accumulated acquired knowledge, skills and attitudes are being integrated and applied to achieve this level of performance in the clinical practice. This module relates directly to Work-integrated Learning (WIL) with the emphases mainly on Workplace-based learning. (Total notional time: 120 hours)

**COMMUNICATION FOR ACADEMIC PURPOSES (11P105X)****1 X 3-HOUR PAPER****(Module custodian: Office of the Executive Dean)**

A workable knowledge of English is an essential skill for any graduate who is required to conduct themselves successfully in a professional working environment. This module will equip students with the competencies required to compose a selection of written texts related to communicating both internally and externally within a professional environment. In addition, the module includes strategies that are essential for the effective communication in various situations, including small groups to avoid unproductive conflict, a multicultural context, etc. (Total notional time: 100 hours)

**COMPUTER LITERACY (CPL105X)****CONTINUOUS ASSESSMENT****(Module custodian: End User Computing Unit)**

This module provides students with foundational knowledge in computing fundamentals, essential digital skills in key applications based on MS Office Suite and network basics (i.e. MS Outlook and Internet). Online exams are mapped with End-User Computing: SAQA 49077 (61591) Core Element as well as Internet and Computing Core Certification (IC3). (Total notional time: 100 hours)

**F****FOUNDATION LIFE SKILLS (FLF125P)****CONTINUOUS ASSESSMENT****(Module custodian: Directorate of Student Development and Support)**

Personal, socio-emotional and academic skills development for students in higher education. This module includes 1. Intra- and interpersonal skills (e.g. emotional intelligence, relationships, and conflict management); 2. General study skills (e.g. time management, goal setting, learning styles); 3. Health and wellness (e.g. HIV/AIDS, GBV issues, substance abuse); 4. Student life and adjustment (e.g. identity development, adjusting to a higher education environment); and 5. Financial management. (Total notional time: 20 hours)

**FORENSIC RADIOGRAPHY (FRG408P)****1 X 3-HOUR PAPER****(Module custodian: Directorate of Biomedical Sciences)**

The module prepares the student to acquire, apply, integrate and demonstrate in-depth forefront knowledge, principles and clinical practice of forensic radiography. Ultimately, the student will become a diagnostic radiographer knowledgeable in the field of forensic radiography, who is able to work in a multi-disciplinary health environment. The student will be able to apply his/her integrated knowledge of the historical perspective of Forensics; applications of radiography in Forensics; Forensic application on individuals, as well as general Forensic protocols and procedures, within simulated and unfamiliar radiography environments. (Total notional time: 120 hours)



**HEALTH CARE ADMINISTRATION AND MANAGEMENT I (HAM307P) CONTINUOUS ASSESSMENT**  
**(Module custodian: Department of Management and Entrepreneurship)**

In this module, the student will be able to demonstrate integrated knowledge and the application of strategic management processes, different management models, importance and utilization of human resources within a health care environment. (Total notional time: 120 hours)

**HEALTH CARE ADMINISTRATION AND MANAGEMENT II (HAM408P) CONTINUOUS ASSESSMENT**  
**(Module custodian: Department of Management and Entrepreneurship)**

This module prepares the student with the theoretical underpinnings of the field of health care administration management and to provide guidance on governing and managing within a business. Furthermore, this module will assist in developing the skills necessary to make administrative and management decisions and to manage the myriad of managerial dilemmas that is faced by managers. (Total notional time: 120 hours)

**HUMAN ANATOMY I (HAN105P) 1 X 3-HOUR PAPER**  
**(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to enter the medical profession. The student will be able to understand and apply his/her knowledge of cellular components, tissue and organ systems to and overall perspective of a healthy human necessary in the medical community. Upon completion, the student will be able to understand important cellular concepts, identify all bones, muscles, nerves and have a sound basis of each organ system. Students will also have mastered the practical skills to be confident in all human body structures and location. (Total notional time: 180 hours)

**HUMAN ANATOMY II (HAN206P) 1 X 3-HOUR PAPER**  
**(Module custodian: Department of Biomedical Sciences)**

This module builds on prior knowledge of human anatomy and physiology. Upon completion, the student will be able to apply his/her knowledge of cellular components, tissue and organ systems to and overall perspective of a healthy human necessary in the medical community. Upon completion, the student will be able to understand important cellular concepts, identify all bones, muscles, nerves and have a sound basis of each organ system which includes the embryological development of each system. Students will also have mastered the practical skills to be confident in identifying all human body structures and location. (Total notional time: 180 hours)

**HUMAN PHYSIOLOGY I (HPY105P) 1 X 3-HOUR PAPER**  
**(Module custodian: Department of Biomedical Sciences)**

The student will be able to apply his/her knowledge of the organisation of the human body, principles of support and movement, control systems of the human body such as the skeletal-, cardiac-, endocrine-, and nervous system, maintenance of the human body, and continuity in theoretical and practical contexts contributing to the body of knowledge necessary in the medical community. Upon completion, the student will be able to identify, explain and apply concepts and processes related to physiology, their control and regulation such as homeostasis, nutrition, movement and reproduction and distinguish between mechanical, biochemical and physical functions in a living system and how each system integrates with other systems in the human body. Students will also have the practical skills to be confident in all human body functions and their roles. (Total notional time: 180 hours)

**HUMAN PHYSIOLOGY II (HPY206P) 1 X 3-HOUR PAPER**  
**(Module custodian: Department of Biomedical Sciences)**

The student should demonstrate detailed knowledge of the human body's cellular and chemical organisation, the principles of support and movement, the control and maintenance of the human body through the various organ systems, pathophysiology of organ systems and continuity contributing to their understanding of the physiology of a healthy human body. Upon completion, the student will be able to identify, explain and apply concepts and principles of organisation of the human body, control-, maintenance-, and pathophysiology of organ systems, sensory organs and continuity to the extent that they are able to successfully undertake various discipline specific modules related to human physiology. Students will also have the practical skills to be confident in all human body functions and their roles and apply this knowledge in a clinical setting. (Total notional time: 180 hours)



**M****MAGNETIC RESONANCE IMAGING (MRI) (MRI408P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to acquire forefront knowledge and understanding of principles and instrumentation of magnetic resonance imaging, the Larmor frequency and the implications on image contrast, the role, effect, and safety of contrast media in MRI, as well as to master theories, methods and techniques relevant to high technology MR Imaging. (Total notional time: 180 hours)

**MAMMOGRAPHY (MGY408P)****1 X 3-HOUR PAPER****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to acquire, apply, integrate and demonstrate in-depth forefront knowledge, principles and clinical practice of mammography to ultimately be positioned to be credited, and after required specialised training, become a practicing Mammographer. This student will then be able to work in a multi-disciplinary health environment. The student will be able to apply his/her integrated knowledge of Mammography, within simulated and unfamiliar radiography environments. (Total notional time: 120 hours)

**MATHEMATICS AND STATISTICS I (MAS105X)****1 X 3-HOUR PAPER****(Module custodian: Department of Mathematics and Statistics)**

Numerical computations, mensuration, equations, functions, descriptive statistics, linear regression and curve fitting. (Total notional time: 120 hours)

**P****PHYSICS FOR HEALTH SCIENCES I (PHS115P)****1 X 3-HOUR PAPER****(Module custodian: Department of Physics)**

This module is aimed at enhancing student knowledge in fundamental concepts in mechanics, mechanical properties of fluids, thermal properties of matter, general and geometrical properties of waves, static electricity and electric circuits and their applications thereof. (Total notional time: 120 hours)

**R****RADIATION PHYSICS, PROTECTION, AND DIAGNOSTIC IMAGING EQUIPMENT II (RDQ206P)****1 X 3-HOUR PAPER****(Module custodian: Department of Physics)**

This module enables the student to apply his/her knowledge to recall and demonstrate an understanding of the major learning fields of general physics, radiation physics, electricity, basic physics of ultrasound, basic physics of MRI, physics of radiography and radiation safety and protection. (Total notional time: 240 hours)

**RADIOGRAPHIC IMAGING I (RDI105P)****1 X 3-HOUR PAPER****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to acquire, apply and demonstrate radiographic knowledge to ultimately become professional, competent radiographer who is able to work in a multi-disciplinary health environment. The student will be able to apply his/her knowledge and understanding of the fundamental aspects of analogue image formation, cassettes, films and intensifying screens, as well as chemical processing. Furthermore, the student will gain knowledge and understanding of image quality and image critique, digital image formation modalities, as well as basic research and computer literacy, within a simulated radiography environment in the radiography skills centre. (Total notional time: 120 hours)

**RADIOGRAPHIC IMAGING II (RDI206P)****1 X 3-HOUR PAPER****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to apply, integrate, and demonstrate basic knowledge, skills and applicable attitudes to a range of advanced imaging modalities and associated advanced technology in the field of Diagnostic Radiography, to be able to understand the process of image formation at this level and also required for the student to become a skilled qualified diagnostic radiographer who can work independently in a multi-disciplinary health environment. (Total notional time: 180 hours)





**RADIOGRAPHIC IMAGING III (RDI307P)****1 X 3-HOUR PAPER****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to apply, integrate, and demonstrate in depth knowledge, skills and applicable attitudes to a range of advanced imaging modalities and associated advanced technology in the field of Diagnostic Radiography, to be able to independently work on the latest developments of technology such as Picture Archiving and Communication system (PACS) as well as Hospital Information Systems (HIS) and Radiology Information System (RIS). (Total notional time: 240 hours)

**RADIOGRAPHIC IMAGING IV (RDI408P)****1 X 3-HOUR PAPER****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to apply, integrate, and demonstrate in depth forefront knowledge, skills and applicable attitudes to a range of advanced imaging modalities and associated advanced technology in the field of Diagnostic Radiography, to be able to operate specified specialised digital radiography equipment required at this level and also required for the student to become a highly skilled and qualified diagnostic radiographer who can work independently in a multi-disciplinary health environment. (Total notional time: 120 hours)

**RADIOGRAPHIC PATHOLOGY II (RPY206P)****1 X 3-HOUR PAPER****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to acquire detailed knowledge of general pathology, as well as a wide range of pathologies with associated radiographic patterns as found in the respiratory-, skeletal-, gastro-intestinal- and urinary systems. Furthermore, the student will acquire detailed knowledge of the diagnostic value of specialised imaging modalities and the imaging modality of choice to demonstrate specific disease processes. This forms a knowledge base which intends to promote the student's understanding of diseases that patients suffer from. The student will be able to apply his/her knowledge of Radiographic Pathology in the field of Diagnostic Radiography. (Total notional time: 180 hours)

**RADIOGRAPHIC PATHOLOGY III (RPY307P)****1 X 3-HOUR PAPER****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to acquire integrated knowledge of a wide range of pathologies with associated radiographic patterns, as found in the Cardiovascular-, Nervous-, Endocrine-, Reproductive- and Hematopoietic Systems. Furthermore, the student will acquire integrated knowledge of specific internal devices. This forms a knowledge base which intends to promote the student's understanding of diseases found in abovementioned systems that patients suffer from. The student will be able to apply his/her knowledge of Radiographic Pathology in the field of Diagnostic Radiography. (Total notional time: 120 hours)

**RADIOGRAPHIC PRACTICE I (RPT105P)****1 X 3-HOUR PAPER****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to integrate basic radiographic knowledge to ultimately become professional, competent radiographers who are able to work in a multi-disciplinary health environment. The student will be able to apply his/her knowledge of the medication used; infection control aspects; radiographic terminology; principles of radiation protection; positioning of the axial skeleton, appendicular skeleton and respiratory system; the principles of mobile and intra-operative radiography within simulated environments. (Total notional time: 120 hours)

**RADIOGRAPHIC PRACTICE II (RPT206P)****1 X 3-HOUR PAPER****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to demonstrate detailed radiographic knowledge of radiation effects and protection; specialised radiographic technique of the axial skeleton, appendicular skeleton and body systems; fluoroscopic principles; contrast medium administration and the emergency procedure; contrast medium examinations; mobile and intraoperative examinations; obstetrics and gynaecological imaging and soft tissue radiography and in so doing ultimately become professional, competent radiographers who are able to work in a multi-disciplinary health environment. The student will be able to apply his/her knowledge of Radiographic Practice within simulated and familiar clinical environments. (Total notional time: 240 hours)



**RADIOGRAPHIC PRACTICE III (RPT307P)****1 X 3-HOUR PAPER****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to attain, apply and integrate specialised radiographic knowledge to ultimately become professional, competent radiographers who are able to work in a multi-disciplinary health environment. The student will be able to apply and integrate his/her knowledge of Anatomy, Physiology, Advanced Pathology, Pattern Recognition, basic research and computer literacy, as well as specific knowledge regarding specialised skull radiography, paediatrics. Computerized Tomography (CT) and specialised contrast media procedures such as Sialography, Dacrocystography, Sinography etc. In addition, integrated knowledge regarding other modalities will be obtained including Magnetic Resonance Imaging (MRI), Ultrasound, Nuclear Medicine and Radiation Oncology, as experienced in the clinical radiography environment. (Total notional time: 240 hours)

**RADIOGRAPHIC PRACTICE IV (RPT408P)****1 X 3-HOUR PAPER****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to acquire, apply, integrate, and demonstrate in depth forefront knowledge of a range of advanced imaging modalities, including Computerized Tomography, Angiography and Interventional Procedures and Ultrasound, as well as associated advanced technology in the field of Diagnostic Radiography, which are required at this level and also required for the student to become a highly skilled qualified diagnostic radiographer who can work independently. (Total notional time: 240 hours)

**RESEARCH PRINCIPLES I (RPH115P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to acquire an informed understanding of the basic principles of research and academic writing to include definitions, characteristics, as well as the concepts of scholarly writing, scholarly literature, the methodologies and designs. The student will be able to demonstrate the ability to select and apply the correct academic writing principles, citation methods, and procedures in order to avoid any form of plagiarism. Through this module, students will obtain the ability to integrate aspects of research principles and methodology in their field of study. Relevance of research is in line with national needs and biomedical ethical policies and procedures, and suitable resources need to be critically evaluated and used to facilitate the research project on postgraduate level. (Total notional time: 60 hours)

**RESEARCH PRINCIPLES II (RPH216P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to demonstrate detailed understanding and knowledge of the main areas of research principles and the ability to apply concepts, principles and theories related to the framework of a research proposal, the different research methodologies and designs, as well as data collection principles, analysis, reliability, validity, rigour, trustworthiness, budget and funding. Through this module, the student will demonstrate understanding of the research problem and objectives within the context of a particular research methodology, as well as the ability to evaluate, select and apply the optimal sampling procedures, data collection principles relevant to a research methodology and design. Knowledge and the ability to analyse, synthesise, and evaluate information from different sources of scholarly academic information, including definitions, criteria, purposes, questionnaire designs, data collection principles and methods for the application during the research process will be obtained in preparation to the next level of research principles and procedures to follow. (Total notional time: 60 hours)

**RESEARCH PRINCIPLES III (RPH307P)****CONTINUOUS ASSESSMENT****(Module custodian: Department of Biomedical Sciences)**

This module prepares the student to demonstrate integrated knowledge of the central and crucial areas of research principles and methodologies including the ability to apply concepts, principles and theories necessary for the compilation of a research proposal in the context of an academic and/or health science related environment. Through this module, students will gain understanding of the roles and responsibilities pertaining to the research supervisor and the researcher. Students will learn to differentiate between research methods and their suitability and ability to resolve specific research enquiries, act ethically and professionally with dignity and integrity, as well as to manage the processing of gathered data through advanced bio-statistical methods. (Total notional time: 60 hours)



**RESEARCH PRINCIPLES IV AND PROJECT (RPH408P)**  
**(Module custodian: Department of Biomedical Sciences)**

**CONTINUOUS ASSESSMENT**

This module which prepares the student to demonstrate knowledge of and engagement in the advanced aspects of research principles and techniques at the forefront related to a particular medical field of study or specialisation. Students should further be able to demonstrate understanding of the analysis and interpretation of research results, the structure and composition of a research report, as well as publications and presentations. Students will gain knowledge in the use of specialised skills to identify, analyse and address abstract problems related to a research project in a field of study or specialisation, as well as to incorporate body of knowledge and methods during the problem solving process. On completion of this module, students should show their ability to present and communicate scientific research results to a range of audiences in the format of a research article for a given journal, poster design, as well as in the form of a verbal and visual research presentation. (Total notional time: 300 hours)

**S**

**SECTIONAL ANATOMY AND PATTERN RECOGNITION III (SAP307P)**  
**(Module custodian: Department of Biomedical Sciences)**

**1 X 3-HOUR PAPER**

This module prepares the student to acquire integrated knowledge of sectional/slice images that demonstrate different regions of the body and a range of abnormal patterns associated with diseases as demonstrated on CT and MRI images. The module will furthermore prepare the student to distinguish between normal and abnormal radiographic patterns associated with disease. The student will be able to apply his/her knowledge of mentioned components of the module in the field of Diagnostic Radiography. (Total notional time: 120 hours)

**SECTIONAL ANATOMY AND PATTERN RECOGNITION IV (SAP408P)**  
**(Module custodian: Department of Biomedical Sciences)**

**1 X 3-HOUR PAPER**

This module prepares the student to acquire, apply, integrate, and demonstrate in depth forefront knowledge of Sectional Anatomy of different regions of the body as demonstrated on CT and MRI images, as well as to recognize abnormal radiographic patterns associated with diseases demonstrated on these images. The module will furthermore prepare the student to acquire, apply, integrate, and demonstrate in depth forefront knowledge of radiographic pattern recognition to distinguish between normal and a wide range of abnormal radiographic patterns associated with a variety of diseases. The student will be able to apply his/her knowledge of mentioned components of the module in the field of Diagnostic Radiography. (Total notional time: 120 hours)

**SPECIALISED RADIOGRAPHIC IMAGING EQUIPMENT III (SRI307P)**  
**(Module custodian: Department of Physics)**

**1 X 3-HOUR PAPER**

This module prepares the student to demonstrate integrated knowledge in the fundamental concepts and functioning of x-ray apparatus used in various specialised diagnostic radiographic imaging modalities: Fluoroscopy, Dentistry, Mammography, Digital Radiography, Digital Tomography, MRI, Ultrasound, Bone Densitometry and Nuclear Medicine. In addition, it seeks to help students develop a conceptual understanding of the diagnostic x-ray imaging components per each modality; develop the ability to reason and compare in an organised manner; this is essential in optimising modalities. (Total notional time: 180 hours)

