SCHOOL OF PHARMACY CALENDAR 2026

SEFAKO MAKGATHO
HEALTH SCIENCES UNIVERSITY

#SMUShapingHealthSA#
WeAreSMU | #SMU

Medium of Instruction

The medium of instruction at the Sefako Makgatho Health Sciences University is English.

Validity

This Calendar is valid for the year 2026. The School reserves the right to amend any rule or provision in this Calendar at any time without prior notice. No responsibility is accepted for possible inaccuracies.

University Semesters: 2026

FIRST SEMESTER:	**05 January 2026**	**17 July 2026**
SECOND SEMESTER:	**20 July 2026**	**15 December 2026**
AUTUMN Recess (for students)	30 March 2026	02 April 2026
WINTER Recess (for students)	08 July 2026	17 July 2026
SUMMER Recess (Students Vacation)	23 December 2026	04 January 2027

Correspondence

All correspondence to be addressed to: The Dean

Sefako Makgatho Health Sciences University

School of Pharmacy

P. O. Box 218

Medunsa

0204

Telephone: +27 (0)12 521 5866/
+27 (0) 12 521 5058

E-mail Address: simangele.mahlangu@smu.ac.za

nokukhanya.nyawo.@smu.ac.za

Table of Contents

1. MESSAGE FROM THE DEAN 1
2. SCHOOL VISION AND MISSION 2
3. SCHOOL COMMITTEES 3
4. DEPARTMENTS & MEMBERS OF STAFF 4
5. SCHOOL RULES 7
G1 GENERAL SCHOOL RULES 7
G2 ADMISSION 7
G3 REGISTRATION 8
G4 ENROLMENT 9
G5 TIMETABLES 10
G6 PAYMENT OF FEES 10
G7 REGISTERING FOR MODULES/COURSES FOR NON-QUALIFICATION PURPOSES 10
G8 RECOGNITION AND EXEMPTION OF MODULES/COURSES 11
G9 CREDIT ACCUMULATION AND CREDIT TRANSFER 12
G10 RETENTION OR LOSS OF CREDITS 12
G11 DURATION OF STUDY 13
G12 CHANGE OF PROGRAMMES AND SIMULTANEOUS REGISTRATION FOR TWO OR MORE PROGRAMMES 14
G13 ASSESSMENT 14
G14 SUMMATIVE ASSESSMENT 14
G15 SUPPLEMENTARY/RE-EXAMINATION ASSESSMENT (FOR UNDERGRADUATE STUDIES ONLY) 15
G16 SPECIAL OR DEFERRED SUMMATIVE ASSESSMENT 15
G17. SPECIAL SUMMATIVE ASSESSMENT (FOR UNDERGRADUATE STUDIES ONLY) 16
G18 DEVIATION FROM STANDARD ASSESSMENT PROCEDURE TIME LIMITS 17
G19 ASSESSMENT FRAUD & DISHONESTY 17
G20 ASSESSORS AND MODERATORS 17
G21 DISTINCTION IN A MODULE 18
G22 FAILURE OF A MODULE/COURSE 18
G23 VIEWING AND REMARKING OF SCRIPTS 18
G24 AWARDING OF A QUALIFICATION 19
G25. ADMISSION TO POSTGRADUATE STUDIES 19
G26 LIMITATION ON THE ACTIVITY OF A STUDENT FOR REASONS OF ILL HEALTH 20
G27 CONDONATION OF BREACH OF RULES 20
6. LIST OF PROGRAMMES 21
7. SELECTION, ADMISSION & PLACEMENT RULES 22
7.1 HIGHER CERTIFICATE PROGRAMMES 22
SOP HCert 1: HIGHER CERTIFICATE IN VACCINOLOGY 22
SOP HCert 1.1 Purpose of qualification 22

SOP HCert 1.2 Assumption of learning already in place 22
SOP HCert 1.3 Selection and Admission requirements 22
SOP HCert 1.4 Registration 22
SOP HCert 1.5 Duration 23
SOP HCert 1.6 Curriculum 23
SOP HCert. 1.7 Assessment 24
SOP HCert 1.8 Recognition of Prior Learning (RPL) 27
7.2 BACHELOR PROGRAMME 28
SOP B 1: B PHARM PROGRAMME (BPhHA01) 28
SOP B 1.1 SELECTION 28
SOP B 1.1.1 Selection Process 28
SOP B 1.1.2 National Senior Certificate Applicants 28
SOP B 1.1.4 Other applicants 28
SOP B 1.1.5 Graduates 29
SOP B 1.1.6 Transfers from SMU and/or other universities 29
SOP B 1.1.7 General information for registration with the South African Pharmacy Council (SAPC): 30
SOP B 1.1.8 Internship 30
SOP B 1.2 Curriculum 31
SOP B 1.2.1 Completion of requirements for promotion 31
SOP B 1.2.2 Moderation 32
SOP B 1.2.3 Admission to the final assessment 32
SOP B 1.2.4 Late submission of assessments 32
SOP B 1.2.5 Supplementary assessment 32
SOP B 1.2.6 Exemption 32
SOP B 1.2.7 Confidentiality 32
7.3 POSTGRADUATE DIPLOMA PROGRAMMES 32
SOP PGDip 1: PG DIP IN HOSPITAL PHARMACY MANAGEMENT (100) 32
SOP Dip 1.1 Purpose of qualification 32
SOP Dip 1.2 Assumption of learning already in place 32
SOP Dip 1.3 Admission requirements 33
SOP Dip 1.4 Duration 33
SOP Dip 1.5 Curriculum 33
SOP Dip 1.6 Assessment 33
SOP PGDip 2: PG DIP IN PHARMACEUTICAL REGULATORY AFFAIRS 33
SOP Dip 2.1 Purpose of qualification 33
SOP Dip 2.2 Admission requirements 33
SOP Dip 2.2.1 Entry requirements 33
SOP Dip 2.2.2 Selection Criteria 34

SOP Dip 2.2.3 Duration 34
SOP Dip 2.3 Curriculum 34
7.4 MASTER'S DEGREE PROGRAMMES 35
SOP M 1: MASTER OF PHARMACY (MPHARM) 35
SOP M 1.1 Introduction 35
SOP M 1.2 Options offered 35
SOP M 1.3 Admission 35
SOP M 1.4 Selection requirements 35
SOP M 1.5 Selection procedures 35
SOP M 1.6 Curriculum 36
SOP M 2: MASTER OF PHARMACY IN PUBLIC HEALTH PHARMACY AND MANAGEMENT 36
SOP M 2.1 Introduction 36
SOP M 2.2 Admission 36
SOP M 2.3 Minimum selection requirements 36
SOP M 2.4 Selection procedures 37
SOP M 2.5 Curriculum 37
SOP M 3: MASTER OF PHARMACY IN RADIOPHARMACY 38
SOP M 3.1 Introduction 38
SOP M 3.2 Admission 38
SOP M 3.3 Selection requirements 38
SOP M 3.4 Selection procedures 38
SOP M 3.5 Curriculum 38
SOP M 3.6 Duration 39
SOP M 3.7 Assessment 40
SOP M 3.8 Summative assessment of coursework: 40
7.5 DOCTORAL DEGREE PROGRAMMES 47
SOP D 1: PhD DEGREE PROGRAMME 47
SOPD 1.1 Admission requirements 47
SOPD 1.2 Selection and admission requirements 47
SOPD 1.3 Examination of the thesis 47
SOP D2: DPHARM DEGREE PROGRAMME 48
SOP D2.1 Introduction 48
SOP D2.2 Options offered 48
SOP D2.3 Selection 48
9. MODULAR INFORMATION 49
9.1 SYLLUBUSES FOR PROGRAMMES OFFERED IN THE SCHOOL 49

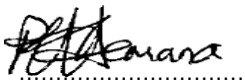
1. MESSAGE FROM THE DEAN

The School of Pharmacy is one of the five Schools of Sefako Makgatho Health Sciences University (SMU). There are four departments in the School of Pharmacy which are Clinical Pharmacy, Pharmaceutical Sciences, Pharmacy Practice, and Public Health Pharmacy and Management. The School offers BPharm degree and a number of certificate programme courses such as those for Basic and Post-Basic Pharmacist Assistants, dispensing course for medical doctors and professional nurses, and recently Higher Certificate in Vaccinology for healthcare professionals. It is a premier School in South Africa which is well known as a pioneer and innovator in terms of offering high quality education and training for students both at the undergraduate and postgraduate level. It is the only School of Pharmacy in the country that pioneered a thematic problem-based teaching pedagogical method for the Bachelor of Pharmacy (BPharm) programme.

As a leader in innovation in pharmacy education, it has also pioneered a number of postgraduate diploma and professional master's programme. The School currently offers Postgraduate Diploma (PGDIp) in Hospital Pharmacy Management and also Postgraduate Diploma in Pharmaceutical Regulatory Affairs. The professional Masters degree qualifications offered in the School are Masters of Pharmacy in Clinical Pharmacy, and Masters of Pharmacy (MPharm) in Public Health Pharmacy and Management. The Masters of Pharmacy degree programme in Radiopharmacy offered at SMU is the only professional course available not only in South Africa but one of the very few in the whole continent of Africa and the only one in English language. Furthermore, the School in addition to conducting research leading to Doctor of Philosophy (PhD) degree in any discipline of the pharmacy profession, it also offers a professional doctoral programme, i.e. the Doctorate in Pharmacy (DPharm degree) as part of the university qualifications mix. School of Pharmacy boasts of having two entities for third stream income generation which has been running for many years. This is the Pharmacy Training Development Project (PTDP) where the courses for pharmacist assistants and dispensing courses are housed. Another entity is Photobiology Laboratory with its main function is to offer services of research nature for several studies from cosmetic/pharmaceutical industry.

The future of Pharmacy lies in the hands of our graduates, and the impact that they will have on the health of patients and the public at large. Therefore, through our excellent academic programmes, both at undergraduate and postgraduate level, the training offered to students, equips them with the necessary knowledge, skills and attitudes to serve the healthcare needs of our society.

DEAN: SCHOOL OF PHARMACY



.....

PROFESSOR PH DEMANA

2. SCHOOL VISION AND MISSION

Vision

Transforming pharmacy health care services through excellence and innovation

Mission

School of Pharmacy provides training and education in pharmacy degree and non-degree programmes through excellence in teaching, learning, innovative research and community engagement.

Values

The values that will guide students, school and administrative staff are:

- **Accountability**: We are obliged to answer for the execution of our responsibilities. Accountability cannot be delegated, whereas responsibility can be delegated without abdicating accountability.
- **Effective leadership:** we are results-driven and focus on achieving strategic objectives and positive outcomes.
- **Efficiency:** We pledge to be efficient stewards of the resources entrusted to our care to ensure maximum benefit for the university.
- **Excellence:** Performance excellence in the core and operational functions of the university.
- **Integrity:** We act with integrity in accordance with the highest academic, professional, and ethical standards.
- **Respect:** We respect and honour the dignity of each person, embrace civil discourse, and foster a diverse, inclusive, and safe community.
- **Student centred:** Promoting student-centeredness as the heart of the academic enterprise.
- **Ubuntu**: ubuntu encompasses respect, dignity, value, acceptance, sharing, co-responsibility, humaneness, social justice, fairness, personhood, morality, group solidarity, compassion, conciliation, et creteria.

3. SCHOOL COMMITTEES

School Board of Pharmacy	Chairperson: Prof PH Demana
School Executive Committee (EXCO)	Chairperson: Prof M Matlala
School of Pharmacy Research Committee (SOPRC)	Chairperson: Dr P Skosana
School Examination Committee	Chairperson: Prof PH Demana
School Quality Assurance Committee	Chairperson: Prof PH Demana
School Selection Committee	Chairperson: Prof PH Demana
School Student Disciplinary Committee	Chairperson: Prof PH Demana
School Community Engagement Committee	Chairperson: Dr T Mosiane-Okaecwe
School Academic Planning Committee	Chairperson: Dr MS Poka
School Academic Exclusions Committee	Chairperson: Prof PH Demana
School of Pharmacy Post Graduate Committee	Chairperson: Prof X Siwe Noundou
Oath Taking Committee	Chairperson: Ms N Nyawo

4. DEPARTMENTS & MEMBERS OF STAFF

OFFICE OF THE DEAN	**Tel: 012 521 5866/5058**
Dean	Prof Demana, PH: BSc (Hons) (Pharmacy) (Liverpool JMU), MSc (RU) (Pharmaceutics), PhD (Otago) (Pharmaceutics)
Vice Dean	Prof Matlala, M: BPharm (RU), MSc (Med) Pharmacy
Secretary to the Dean	Ms Mahlangu, S N. Dip in Credit Management (UJ)
School Operations Manager	Ms Nyawo, N, N. Dip Office Management & Technology (DUT), N. Dip Operations Management (DUT), B. Tech Business Administration (DUT), B. Tech Operations Management (DUT), B. Com Honours Business Management (UNISA), MBA (UNISA)
Administrative Assistant	Mr Masia, W: Higher Certificate in Logistics & Supply Chain Management Practice

CLINICAL PHARMACY	**Tel: 012 521 3286**
Associate Professor (HoD)	Prof Bronkhorst, E: BPharm (NWU), MSc (Med) Pharmacy (UL) PhD Pharmacy (SMU)
Professor	Prof Gous AGS. BPharm(NWU), PharmD (Tennessee)
Senior Lecturer	Dr Skosana, P. (BPharm (UL), MPharm (SMU), PhD (SMU)
Lecturer	Ms Lentsoane P. BPharm (UL), MPharm (SMU)
Lecturer	Ms Shirindza NP. BPharm (SMU), MPharm (SMU)
Lecturer	Mr Nabyoma J. BPharm (UL), MPharm (UL)
Lecturer	Mr Nxumalo N. BPharm (SMU), MPharm (SMU)
Departmental Secretary	Ms Moeletsi, C Dip (Intec), Certificate in Public Administration (IQ Academy)

PHARMACEUTICAL SCIENCES	**Tel: 012 521 4212**
Lecturer (Acting HoD)	**Dr Poka, MS: BPharm (Jawaharlal Nehru Technology University), MTech (Pharmaceutical Sciences) (TUT) PhD (UWC)
Professor	Prof Noundou, XS: BSc Chem (Cameroon); MSc Chem (Cameroon); PhD (UJ)
Professor (part-time)	Prof Summers, B: BPharm (Nottingham), MSc (Med) (Medunsa), PhD (MEDUNSA)
Senior Lecturer	Dr Bassey, EK: BSc (Hons) Chemistry (CalabarNigeria), MTech (Chemistry) (TUT), Dtech (TUT)
Senior Lecturer	Dr Kahts, M: BPharm (NWU); MSc (Med) Pharmac
Senior Lecturer	Dr Witika, BA: BPharm (UNZA), MSc. Pharm (RU), PMPP (Stellies), PhD (RU)
Senior Lecturer	Dr Makoni, P. BPharm, PGDip EM, MSc, PhD (Rhodes)
Senior Lecturer	Dr Mokhele, S. S. BPharm (NUL), MTech Pharmaceutical
Senior Lecturer	Vacant
Lecturer	Ms Abraham, V: BSc (Biological Sciences) (Wits), BSc (Hons)-Pharmacology (NWU) MPharm (SMU)
Lecturer	Ms Mokhwazo, EM: Ndip (Analytical Chemistry) (TUT), BTech (Pharmaceutical Sciences) (TUT), MedSc (Pharmaceutics)(UKZN)
Lecturer	Ms Andrew J: BPharm (UL, Medunsa), MPharm (SMU)
Lecturer	Vacant
nGAP Lecturer	Ms Mosima, L: BRad (Diagnostic) (UL) BPharm (UL), MPharm (Radiopharmacy) (SMU)

nGAP Lecturer	Ms Mamabolo MP: Bsc (Molecular & Life Sciences), Bsc Hons (Chemistry)
Laboratory Technician	Mr Moremi M.P: ND Analytical Chemistry (TNT), BTech (Chemistry) (TUT), MTech (Pharmaceutical Sciences) (TUT)
Laboratory Technician	Ms Sikhakhane M.N: ND Biotechnology (VUT), BTech Biotechnology (VUT)
Laboratory Assistant	Ms Khuthadzo D. Higher Certificate in Physical Science (Unisa) in process
Departmental Secretary	Ms Mahlangu, J. ND Management Services (TUT)

PHARMACY PRACTICE **Tel: 012 521 5703**

Lecturer (nGap) (Acting HoD)	**Dr Okaecwe-Mosiane, T BPharm (NWU), MSc (Pharmaceutical Chemistry), (NWU), PhD (Pharmaceutical Sciences) (NWU)
Senior Lecturer	Dr Mncwangi, NP: BPharm (UL), MTech (Pharmaceutical Sciences) (*Cum laude)* (TUT) DTech (Pharmaceutical Sciences) (TUT)
Lecturer	Mr Mahlatsi, GT: DipPharm (NUL/NHTC), BPharm (MEDUNSA), MTech (Pharmaceutical Sciences) (TUT)
Lecturer	Dr Mathevula M: BPharm (UL), MPharm (UL), MCOM (UJ) PhD (SMU)
Lecturer	Mr Kruger, D: BPharm (NWU), MSc (Med) (SMU)
Lecturer	Ms Nkonde, K: BPharm (UL, Medunsa), MPharm (SMU)
Lecturer	Mr Ssengooba F: BPharm, MTECH (TUT)
Departmental Secretary	Ms Fratter, C: FETC: Business Administration Services

PUBLIC HEALTH PHARMACY AND MANAGEMENT **Tel: 012 521 3699**

Associate Professor (HoD)	Prof Matlala, M: BPharm (RU), MSc (Med) Pharmacy (UL, Medunsa) PhD (UL, Medunsa)
Professor	Prof Meyer, JC: BPharm (*Cum laude*) (PU for CHE), MSc (Med) Pharmacy *(Cum laude)*(MEDUNSA), PhD (UL)
Lecturer	Mr Makhele, L: BPharm (SMU), MPharm (SMU),
Lecturer	Ms Nemutandani, R: BPharm, MPharm (NWU) MPH
Junior Lecturer	Ms Shabangu, N: Bachelor of Public Health (Monash University), PGDip in Public Health
nGAP Lecturer	Mr Mahlaba, KJ: BPharm (SMU), MPharm (SMU)
nGAP Senior Lecturer	Dr Ismail, Z: BSc (Wits), BSc Hons (Wits), PhD
nGAP Lecturer	Mushasha, P: Bcur in nursing (Uni Venda), MPH in public health (Univen)
Honorary Professor	Prof Godman, B: BSc Pharmacology (King's College), Dip Economics & Business studies (Sheffield University), PhD (Open University)
Honorary Professor	Prof Campbell, S: BA Hons Public Administration (Leicester Polytechnic), MPhil Local Government Governance (University of Manchester), PhD Quality of Care in General Practice (University of Manchester)
Honorary Professor	Prof Pitts, PhD (McGill University)
Research Associate	Dr Kurdi, A BSc (Pharm), MSc (Clinic. Pharm), PhD, FHEA, PG Diploma Academic Practice
Research Associate	Dr Malande, OO: MBChB (Moi), MMed Paed (Muk), FCPaed-Cert ID (SA), MPhil (Paed ID) UCT
Research Associate	Dr Ngambi, PG. BPharm (UNZA), MSc Pharmacoeconomics & Health Economics (Cardiff), PhD (University of Manchester)

Lecturer (part-time) – DoHET CTG	Ms Helberg, EA: Dip Pharm (WT), MSc (Med) Pharmacy
Lecturer (part-time) – DoHET CTG	Dr Keele, MG: BPharm (Unin), MPharm (NMMU), PhD (Wits)
Lecturer (part-time) – DoHET CTG	Mr Mafarafara, NG. BPharm (UL), MPharm (SMU)
Lecturer (part-time) – DoHET CTG	Ms Chigome AK. BPharm (RU), MPharm (SMU)
Departmental Secretary	Ms Krugel, J: Cert Advance office management (UNISA), Cert Office management (UNISA)

NOTE: ** Indicates Acting Head of Department

5. SCHOOL RULES

G1 GENERAL SCHOOL RULES

G1.1 Students are personally responsible for ensuring that they are well informed regarding the General Rules and relevant school rules and that they comply with said rules.

G1.2 A prospective, or registered, student is not exempted from the general and school rules ostensibly on the basis of having been misinformed about the content of such rules. However, the Registrar may, in this regard, grant an exception of the strength of a comprehensive written justification.

G1.3 All agreements between a student and the University regarding admission and/or registration and/or campus accommodation are deemed to have been entered into in Pretoria, irrespective of where any of the parties actually signed the agreement.

G1.4 Unless otherwise indicated, expressly or by necessary implication, in the rules of a school, these General Rules apply.

G1.5 By signing and submitting the application and registration forms either on paper or electronically a student agrees to be bound by all rules, policies and decisions of the University until such time as the registration is validly terminated by the student or the University.

.

RELATION TO OTHER RULES

Unless otherwise indicated, expressly or by necessary implication, in the particular Rules of a School approved by the Senate and ratified by the Council, the University General Rules apply.

G2 ADMISSION

2.1 An applicant for admission to a degree or diploma or any other programme of learning, in any school, must comply with the conditions and meet the admission criteria that are published in terms of the rules of the relevant school. An application from a prospective student based on an NCV (NQF4) certificate, will be processed in accordance with the requirements for admission to a qualification as defined in the school rules.

2.2 The Council may refuse admission to any applicant when this is considered to be in the interest of the University.

2.3 Failure upon applicant to divulge details of registrations at all, or at any higher education institution (s) will be handled as an unethical act of fraud.

2.4 A student is required, on having been granted admission, to register online and by: signing the official registration form; and pay the prescribed fees. He or she must annually renew his or her registration and pay the prescribed fees, for as long he or she continues as a student of the University; provided that a student may be refused permission to renew his or her registration for any year of study if he or she fails to satisfy the prescribed minimum progression.

2.5 A student wishing to change his or her programme of learning by transfer between schools, or by transfer to a different programme within the same school, must submit an application via the Senate and Council approved process for admission in the following academic year.

2.6 A student may not renew his or her registration unless all outstanding debts have been paid in full before the commencement of the new academic year, or acceptable arrangements have been made with the Executive Director: Finance.

2.7 A student refused readmission on academic grounds is advised in writing of the decision as soon as possible after publication of the final marks.

2.8 A student who has failed two years in succession and who is not therefore able to complete the qualification within the maximum period specified in Rule G11, shall be refused readmission on academic grounds.

G3 REGISTRATION

3.1 The act of registration constitutes a contractual undertaking by the person to abide by the Statute of the University and all of its rules, procedures, guidelines and codes of conduct and confers upon him or her status of a student of the University. The University does not grant registration with retroactive effect. Persons who are not registered for a programme/module are not regarded as students and no credits will be given for modules irregularly passed in these programmes, irrespective of their performance.

3.1.1 The Student Code of Conduct contains a commitment by each student to respect the primacy of academic endeavour while registered at the University. It requires diligence in preparation for learning events and in participation in them. It is also based on respect for the rights of others, both students and staff members. Importantly, students undertake to ensure that only work that is their own will be submitted during their tenure at the University and that they will not plagiarise the intellectual property of others.

3.1.2 The Academic Staff Code of Conduct contains a commitment by each academic staff member to ensure that the rights of each student will be respected. The Code requires diligence in creating quality learning opportunities for students and an undertaking to provide timeous, meaningful feedback aimed at enhancing the attainment of the University's published graduate attributes. Academic staff also undertakes to give primacy to the Scholarship of Teaching and Learning (SoTL) and to the Scholarship of Assessment.

3.1.3 Where either of these Codes of Conduct, or the Disciplinary Codes of the University, or the Policy on Plagiarism are transgressed, recourse is available by the application of disciplinary procedures or by invoking the Grievance Procedure.

3.2 Students may attend lectures, tutorials, and practical and clinical components only of those modules/courses for which they are registered.

3.3 A student is personally responsible for the composition of his or her programme of study in compliance with the General Rules and the Rules of the relevant School or Schools concerned. When registering for each module/course the student must ensure that there is no clash on the official timetable or the examination timetable, and that the selected components of the programme are in accordance with the module prerequisites and the prescribed sequence and composition of modules as required for specific years of study.

3.4 A student shall not register for a full-time qualification on a part-time basis.

3.5 The onus to register before the closing dates resides with the student.

3.6 A person who has been expelled (or rusticated for a period, which is not yet completed), from another higher education institution due to serious misconduct, may not be admitted or register at this University. It is the responsibility of a person who applies for admission or registration at this University to disclose to the University any misconduct for which he or she was found guilty at another higher education institution; whether he or she was expelled or rusticated for any misconduct from another higher education institution; and the terms and duration of his expulsion or rustication from such higher education institution.

3.7 Upon registration, all first-time entering students, without exception, must produce a certified copy of their National Senior Certificate or National Certificate (Vocational) at NQF Level 4 or a certified copy of the notification of the examination result or other equivalent certification prior to the deadlines stipulated in the General Calendar. Non-compliance may result in immediate or subsequent cancellation of a student's registration.

3.8 Certified copies of all original documents, in addition to those stipulated in Rule G3.7 above, that the University requires, must be submitted by each student to the office of the Registrar on or before the first day after the winter recess in the year of first registration. In particular, a student who previously studied at any other institution(s) of higher education must, not later than during the University's registration process also submit an original complete study record and a certificate of conduct from the previous.

Institution (s) of higher education. Failure to comply with these requirements results in immediate or subsequent cancellation of the registration of the student.

3.9 Senate may, on the recommendation of the School Board, impose conditions on the

3.10 registration of a student whose academic performance is at risk. The University reserves the right to cancel any erroneous registration after completion of a thorough administrative enquiry.

3.11 In In respect of concurrent registration: except by the special permission of Senate and subject to rule G12

a. no student shall be registered for more than one qualification at the same time;

b. no student shall, while registered at any other tertiary institution, be registered.

3.12 Altered names and surnames of students have effect from the date of publication in the Government Gazette or other legal instrument, and all SMU documents issued prior to that date remain unaltered with the previous names and surname. A qualification 21 awarded or conferred after this date shall be issued in the altered name.

G3.13 Annual registration by Masters and Doctoral students

G.3.13.1 First time Masters students must register for their programmes by the last date as indicated in the University calendar. This rule notwithstanding, first time professional Masters students whose registration is contingent on them being appointed as Registrars by the relevant government departments or entity are allowed to register during two openings: (i) January to March of each year and (ii) July to August of each year as indicated in the University calendar.

G.3.13.2 Continuing Masters students must renew their registration by the last date of registration of this category of students as indicated in the University general calendar.

G.3.13.3 First time doctoral students are allowed to register throughout the academic year but not later than 31 October each year.

G4 ENROLMENT

G4.1 Subject to Rules G8, G9, G10 and G11 every student must follow an approved programme of study as listed under Rule G11 or be registered as an occasional student.

G4.2 A student is subject to the qualification rules pertaining to the student's first year of registration, unless provided in Rule G4.3 where the Senate determines otherwise. Where a rule relating to a module or a programme is amended, a student who began his or her studies under an earlier rule and has not interrupted his or her studies, may complete his or her programme under the initial rule, except where the relevant school rules determine otherwise.

G4.3 Where the Senate deems it to be in the best academic interests of currently registered students affected by such an alteration of a rule, the Senate may resolve that all students in the programme will, from the commencement of the following year, become subject to the amended rule.

G4.4. A student interrupts his or her studies when he or she:

a) Fails to renew his or her registration in the following year of study;
b) Fails to achieve the minimum requirement for readmission and is refused readmission; or
c) Is permitted by the Senate to interrupt studies, upon prior application, for no more than one academic year.

G4.5 A student who interrupts his or her studies sacrifices the right subsequently to continue under the qualification rules pertaining in the student's first year of registration and Senate may nullify some or all the credits accumulated prior to the interruption of studies in terms of G10.

G4.6 Notwithstanding Rule G4.5, Senate may on the recommendation of the relevant school, in exceptional circumstances, permit a student who interrupted his or her studies, and under such conditions as determined by the school, to recommence his or her studies under the qualification rules pertaining in the student's first year of registration.

G4.7 Senate may, on the recommendation of the relevant school, approve a curriculum to enable a student affected under Rule G4.5 to complete the outstanding credits by drawing from components of the new Rule.

G4.8 A student who interrupts his or her studies in terms of Rule 4.4 may apply to the Senate via the relevant school for a special dispensation, and if approved, specific conditions or re-admission may be formulated, provided that the approved outcomes of the programme remain attainable.

G4.9 Where a student's study is interrupted for longer than a year, such a student must apply for new admission, by completing the relevant form to be considered by the School for readmission. The School is under no obligation to readmit the student concerned and can either, subject to applicable University academic rules:

a) Readmit the student at the same year level;
b) Readmit the student at a year level lower than the one s/he was on at the time of interruption; and
c) Not readmit the student, and advance written reasons to the student concerned.

G4.10 Enrolment under programme changes:

G4.10.1 Where the rules for a programme change substantially a student shall be required to register under the new programme rules whether such a student has interrupted his or her studies.

G4.10.2 On the recommendation of the relevant school, Senate may approve interim measures to enable a student who commenced his or her studies under a previous programme, to complete his or her studies according to the current, revised programme, with the understanding that certain accumulated credits may not count.

G5 TIMETABLES

G5.1 Modules/courses of study selected by students must not clash with any other selected module/course on the official timetable or the examination timetable.

G6 PAYMENT OF FEES

6.1 All requisite student fees shall be paid annually as stipulated before or by the published deadlines and in accordance with the annual registration contract.

6.2 A student may not renew his or her registration unless all outstanding University debts have been settled or arrangements to settle all outstanding University debts have been approved by the Finance Department.

6.3 No academic records or certification pertaining to a student shall be released until all outstanding debts have been settled.

G7 REGISTERING FOR MODULES/COURSES FOR NON-QUALIFICATION PURPOSES

7.1 A student admitted for non-qualification purposes, may not register for any module/course, which is a prerequisite for registration with a health profession body.

7.2 A student registered for non-qualification purposes must not select any module/course that clashes with

any other selected module/course on the official timetable or the examination timetable.

7.3 A module/course taken for non-qualification purposes cannot retrospectively be recognised as credit- bearing as a prescribed module/course for a programme. In the event that the module/course might have been taken under such a programme, and the three-year shelf-life of the module/course has not lapsed, and provided further that all other admission requirements for the qualification have been satisfied, the Dean of the School may elect to make an exception.

7.4 Recognition of credits is valid for a maximum of three years, except where, based on academic grounds, the School Rules determine otherwise and, where applicable, this Rule is read in conjunction with the stipulations contained in Rule G8.

7.5 The fees charged for all modules/courses registered for non-qualification purposes, are double the normal rate as such students do not complete qualifications and the University does not qualify for output subsidy from their studies.

7.6 Students, who are excluded from re-registration, are not permitted to register for outstanding modules/courses in the programme from which they have been excluded, for non-qualification purposes at this University. This Rule must be read in conjunction with Rule G26.

7.7 The limit on the number of modules/courses that a student may complete for non-qualification purposes is subject to School rules, but would not normally exceed one third of the components of a specific programme.

7.8 Students may not, for a second time, register for a module/course for non-qualification purposes in order to improve results, with a view to gaining access retrospectively to post-graduate studies, or to embellish their actual academic performance.

7.9 A student admitted for non-qualification purposes does not qualify for admission to a student residence.

G8 RECOGNITION AND EXEMPTION OF MODULES/COURSES

G8.1 Recognition of work completed at other institutions where a qualification has not been awarded.

8.1.1 Senate may grant a student exemption from class attendance, as well as formative and summative assessment in a module/course by virtue of a credit obtained from another university or accredited higher education institution.

8.1.2 Subject to the stipulations under Rules G8.1.1, G10.2 and G10.3, Senate may, as far as is permissible, accept full academic transcripts and certificates attesting to conduct issued by another university or accredited higher education institution and as appropriate grant credit for such modules/courses for degree qualification purposes, provided that such a prospective student shall not be admitted to a qualification by the University unless:

8.1.2.1 His or her total period of attendance at such a recognised university or other approved higher education institution and at the Sefako Makgatho Health Sciences University, together will equal at least the full period prescribed by this University for the qualification;
8.1.2.2 He or she has successfully passed equivalent approved modules/courses recognized at this University as follows:

(a) for any bachelor's degree for which the prescribed period is four years or more, up to a limit of 50% of the modules/courses excepting at least the final two academic years which must be completed at this University; and

(b) for any other bachelor's degree: after at least two years of registration at the other institution, provided that recognition is granted up to no more than half the total number of credits prescribed for the qualification at this University, and that the remaining credits including those for the final year of the major subjects, are completed at this University.

NOTE: If a qualification does not specify major subjects, such subjects or combinations of subjects are regarded as major subjects as designated, for the purposes of this Rule, under the Rules of the School concerned).

G8.2 Recognition of attendance at the Sefako Makgatho Health Sciences University

8.2.1 A module/course passed with a final combined mark of 50% is passed with exemption and the student is automatically and fully exempted from such a module/course; provided it has no practical and/or clinical component.
8C.2.2 Subject to the above, a student receives full credit for the module/course in question, unless a specific School Rule should preclude such exemption, or shall allow provisional exemption only.
8.2.3 A student who has failed a module/course is required to repeat the respective module/course in full. The School concerned may, however, exempt him or her from specific attendance requirements.

G9 CREDIT ACCUMULATION AND CREDIT TRANSFER

9.1 The Senate may, on the recommendation of the dean of a school, grant a person exemption from and/or credit(s) for work done in a prior qualification-whether obtained at this University or elsewhere- with a view to taking another qualification provided that:9.1.1 no more than 50 percent of the credits may be transferred from the completed qualification(s) and credited to another qualification, subject to the provision that –

9.1.2 at least 50 percent of the credits for the new qualification be obtained at this University; and

9.1.3 a maximum of 25 percent of the credits accrued at the highest NQF Level in the prior completed qualification(s) be acknowledged for another qualification.

9.1.4 These concessions do not apply to admission to a postgraduate qualification in the same School)

9.2 Regarding an incomplete qualification, all the applicable credits may be granted for the new qualification, except in respect of a student from another institution of higher education, in which case no more than 50 percent of the credits required to obtain the qualification may be recognized from those modules completed at the other institution. In the latter case, there is a restriction of the maximum of 25 percent of credits required and earned at the highest NQF Level.

9.3 If credits have been granted based on an incomplete qualification, the registration period for the prior qualification and that for the new qualification must at least coincide with the period prescribed for the new qualification at this University.

9.4 A person from another institution of higher education has to register at the University for at least the last two full academic years (four semesters); in the case of the MBChB degree such a person has to register for at least the last three full academic years.

9.5 In extraordinary circumstances, the Dean, after consultation with the selection committee, may consider exceptions.

9.6 Credits from a completed or an incomplete qualification may normally be transferred to another qualification only once.

G10 RETENTION OR LOSS OF CREDITS

10.1 When a student has interrupted his or her studies at the University and wishes to resume his or her studies after a period that exceeds the shelf life of some or all modules previously successfully completed, Senate may, on the recommendation of the school, nullify the credits thus earned or any exemption or recognition granted from a qualifying module.

10.2 Such a student, if readmitted, must then repeat the module, or an alternative module, to master the changed content. A student, who interrupts his or her studies, may retain the credits for each module passed only for the following maximum, periods stated in this Rule, unless school rules determine otherwise, and provided that the total duration of permitted study for the qualification as delineated in Rule G11 has also not already been exceeded:

Undergraduate and Postgraduate Diplomas	1 year
Bachelor's degrees	3 years
Honour's degrees	2 years
Master's degrees	2 years
Doctoral degrees	2 years

G11 DURATION OF STUDY

11.1 Subject to the stipulations in Rules G8.1 and the provision of Rule G12, every student at the University registered in one of the qualifications listed in this Rule follows an approved programme of study as prescribed by the Rules. Each study programme with minimum qualification completion time N (refer to respective school calendars) shall have maximum duration of N+2. This shall apply to all qualifications including:

- Undergraduate Bachelor's Degrees
- Undergraduate Extended Degrees
- Undergraduate Professional Degrees
- Honours Degrees
- Master's Degrees
- Professional Master's Degrees
- Doctoral Degrees

All qualifications with a minimum duration of 1 year shall have a maximum duration of N+1:

- Undergraduate Diplomas and Certificates
- Honours degrees
- Postgraduate Diplomas

11.2 Senate may recognise periods of attendance as a registered student at another university or institution approved for the purpose by the Senate as part of the prescribed period of attendance for a bachelor's degree at SMU

(a) in respect of a recognised module, or an equivalent approved for the purpose by Senate;

(b) . provided that upon application the prospective student has submitted a full, official academic record and a certificate of attendance and good conduct issued by such a university on or before the closing date for application for admission to this university.

11.3 A part-time student may extend the maximum period of registration set out in G11.1 by one year.

11.4 The duration of all extended degree programmes is one year longer than the corresponding standard degree programme. Such programmes may contain prerequisite, non-credit bearing modules.

11.5 Where research dictates that the gathering of data for the approved post-graduate topic requires several seasons or years the student supported by the supervisor may supplicate for permission from the Senate to be registered for a longer period than the maximum period defined in Rule G11.

11.6 Senate may on application by the student, supported by the supervisor allow a longer period of registration for a postgraduate degree than the maximum defined in Rule G 11. 1 where a research programme requires this.

G12 CHANGE OF PROGRAMMES AND SIMULTANEOUS REGISTRATION FOR TWO OR MORE PROGRAMMES

G12.1 Changes from one programme to another and/or from one school to another are subject to approval of the school or the schools concerned. (See Rule G2.5).

G12.2 A student

(a) may not, except with the permission of the Senate, register for a qualification simultaneously with another qualification at either undergraduate or postgraduate level, at this or any other university;

(b) who has not completed the prerequisite bachelor's degree or equivalent qualification, may not register for a postgraduate qualification.

G12.3 Where Senate allows concurrent registration for more than one qualification

(a) the student must comply with all the prerequisites and applicable Rules; and

(b) the onus is on the student to ensure that there are no clashes on the standard lecture and assessment timetables.

G12.4 Should it become known that a student of this University has registered in contravention of Rule G12, the Registrar may terminate his or her registration with immediate effect.

G13 ASSESSMENT

13.1 Assessment of students must conform to the University's Assessment Policy.

13.2 Exemption from assessment events may only be granted where school rules allow this.

13.3 No assessment event that contributes to the continuous assessment mark may be scheduled after the summative assessment period commences.

13.4 No further assessment is granted after the student has had the benefit of a full assessment cycle, comprising standard, and supplementary or deferred assessment, as applicable.

13.5 Only students who have settled all their financial obligations in the academic year receive their final assessment results.

13.6 Senate may permit a deviation from the standard assessment procedure in terms of Rule G18.

G14 SUMMATIVE ASSESSMENT

14.1 To be admitted to the summative assessment for each module/course, a student must have:

14.1.1 A formative assessment mark of at least 40% in the module/course.

14.1.2 Evidence of class attendance of 75% as a minimum requirement in planned formal contact sessions, for each module/course, as determined by School rules unless the School rules stipulate a higher requirement, except where Rule G8.2.3 applies.

14.1.3 In clinical disciplines, achieved the minimum clinical requirements as determined by the School rules.

14.2 Summative assessment, occurs as scheduled and published in each assessment timetable, unless the Rules of the School determine otherwise.

14.3 Summative assessment in a module/course will normally be a written and/or oral and/or clinical assessment, or an approved alternative assessment procedure as determined in the School Rules.

14.4 For every final level summative assessment of the module/course in a qualification, one or more external assessors must be appointed by the University in the manner defined in the published assessment procedures.

14.5 When calculating the final mark for a module/course following a summative assessment, the differential contribution of the formative and the summative assessment marks is 60:40, unless otherwise specified in the School rules.

14.6 Irrespective of the final mark calculated in terms of Rule G14.5 a student:

G14.6.1 who does not obtain at least 40% in the summative assessment fails the course and will be given the lesser of his or her calculated mark or 49% as a final mark; and

G14.6.2 a student taking a clinical module who does not obtain at least 50% (or more where the school rules and/or the professional body prescribes this) for the clinical component fails the course and will be given the lesser of his or her calculated mark or 49% as a final mark.

G15 SUPPLEMENTARY/RE-EXAMINATION ASSESSMENT (FOR UNDERGRADUATE STUDIES ONLY)

15.1 The format of a supplementary assessment must mirror that of the summative assessment and the contents must be similar in nature and depth: provided that a School Rule may stipulate that the supplementary assessment takes the form of an oral assessment. In such an instance, the assessor(s) must record the oral assessment whether or not the moderator is present. The recording must be safely stored for the same period that written papers are retained after the assessment process is concluded.

15.2 Conditions for the granting of a supplementary assessment in any specific module/course are stipulated in Rules G15.3 and G15.4.

15.3 Students who obtain a final mark between 45% and 49%, both inclusive, are permitted to complete a supplementary /re-examination assessment in the module/course concerned, provided that in the case of clinical prerequisites that require a higher sub-minimum, the clinical requirements dictate an appropriate adjustment and must be published in the School Rules.

15.4 If the final mark achieved in a module/course is 50% or more, but the summative assessment mark is below 40%, the student is permitted to complete a supplementary assessment provided that, in the case of clinical prerequisites that require a higher sub-minimum, the clinical requirements dictate an appropriate adjustment and must be published in the School Rules.

15.5 Unless otherwise resolved by Senate, supplementary assessment is flexibly arranged by the discipline practitioners within the reasonable period, after the standard summative assessment, allowed by Senate resolution, provided that it must occur at least ten days before the commencement of the subsequent semester.

15.6 The calculation of the final mark following a supplementary assessment will follow the ratio used after the summative assessment, with the supplementary assessment mark substituting the summative assessment mark. In the supplementary assessment the student must obtain at least 40% and a final mark of 50% or more to obtain a pass mark: provided that in the case of clinical prerequisites that require a higher sub- minimum, the clinical requirements dictate an appropriate adjustment and must be published in the School Rules. The maximum final mark allocated can only be 50% to reflect the incapacity of the student to attain a higher mark in the first instance.

G16 SPECIAL OR DEFERRED SUMMATIVE ASSESSMENT

16.1 The following requirements apply:

16.1.1 A ***deferred*** summative assessment may be granted to a student who has been prevented from taking the assessment by illness, on the day of the assessment or during or immediately before that assessment; provided that a medical certificate from a registered medical practitioner or

registered traditional healer is submitted to the satisfaction of the School: provided further that the condition diagnosed is not a chronic or repetitive infliction which can be avoided or controlled By medication or other appropriate intervention: and provided further that when the onset of the illness occurs sufficiently prior to the assessment, application for deferment on the required application form accompanied by the medical certificate is submitted to the stipulated office.

16.1.2 A special summative assessment may be granted to a student who has been prevented from taking the assessment as a consequence of domestic circumstances such as serious illness, or death of a spouse, legal partner, parent, guardian, child or sibling: provided the student can produce satisfactory proof of such special circumstances.

16.1.3 A ***special*** summative assessment may be granted to a student who in the final year of study for a qualification has completed all but one of the requirements for the degree or diploma, having failed one module/course in that year and obtained at least 40% in the summative assessment: provided that this does not apply to a clinical module/course, and provided further that the opportunity occurs before the commencement of the subsequent academic year.

16.2 Senate determines whether the whole or only part of the summative assessment in the module/course concerned must be undertaken in a special or deferred assessment.

16.3 Where a student is permitted to complete part of the assessment, any other part of the assessment already completed before the illness or relevant circumstance(s) remains valid and will contribute proportionately to the final mark.

16.4 A special or deferred summative assessment may be scheduled immediately after the cessation of the circumstances that prevented the student from taking part in an assessment or must otherwise normally occur within seven (7) days of approval.

16.5 A student who fails to participate in a special or deferred summative assessment forfeits further assessment in the same module/course, and shall re-register for such a module/course, provided that another rule does not preclude such re-registration.

16.6 Applications for such a special or deferred summative assessment are normally submitted prior to the date of the assessment on the prescribed form, or else on the prescribed form within seven (7) days of the date on which the assessment was held.

G17. SPECIAL SUMMATIVE ASSESSMENT (FOR UNDERGRADUATE STUDIES ONLY)

G17.1 Senate may grant a special summative assessment to a student

(a) In the final year of study for a qualification;

(b) Who has completed all but one of the modules for the qualification;

(c) Who, having failed one module but obtained at least 40% in the summative assessment:

Provided that

(i) the module failed is not a clinical module; and

(ii) the assessment opportunity occurs before the commencement of the subsequent academic year.

G17.2 Senate determines whether the whole or only part of the summative assessment in the module concerned must be undertaken in a special assessment.

G17.3 where a student is permitted to complete part of the assessment as a special assessment, any other part of the

assessment already completed before the illness or relevant circumstance(s) remains valid and will contribute proportionately to the final mark.

G17.4 A student who fails to participate in a special summative assessment forfeits further assessment in the same module, and must re-register for such a module, unless another rule precludes such re-registration.

G17.5 Applications for special summative assessment must be submitted within seven days of the publication of results and must be submitted on the prescribed form to the Dean of the School.

G18 DEVIATION FROM STANDARD ASSESSMENT PROCEDURE TIME LIMITS

18.1 Only in extraordinary circumstances, may Senate grant an extension of time from the standard time set for the assessment procedure. Such circumstances include blindness of a student, inability of the student to write, extremely slow writing by a student, for written assessments, or in an oral assessment stuttering, or any other comparable condition.

18.2 Students seeking accommodation in terms of Rule G17.1 must register with and apply to Senate through the Disabled Students Unit or similar structure, for approval at the first Senate meeting of each year and preceding summative assessments.

G19 ASSESSMENT FRAUD & DISHONESTY

19.1 The procedures contained in the Student Disciplinary Rules and Procedures are used to identify fraud in assessment venues. A student, who is suspected of having acted in contravention of these stipulations, will face a charge or charges of having allegedly transgressed the Student Disciplinary Rules and Procedures by committing assessment fraud and must appear before a School Student Disciplinary Committee, as described in the student disciplinary procedures.

19.2 A student charged with alleged assessment fraud must appear before a School Student Disciplinary Committee within four weeks of the alleged act of infringement.

19.3 Marks obtained in assessment events in all modules/courses for which the student involved is registered, are withheld pending the outcome of the disciplinary hearing.

19.4 Plagiarism, as described in the Student Disciplinary Rules and Procedures, is viewed as assessment fraud. Any material that is presented for any form of assessment, where plagiarism is evident is used as evidence and Rules G19.2 and G19.3 apply.

19.5 A student, who presents a fraudulent Medical Certificate in respect of a scheduled or spot assessment, will be subject to the process described in Rules G19.2 and G19.3.

19.6 A student found guilty of assessment fraud by a School Student Disciplinary Committee is normally deregistered from all the modules/courses for which she or he is registered and in addition may be rusticated if any such period is imposed by the disciplinary process.

G20 ASSESSORS AND MODERATORS

20.1 Students are assessed in all modules/courses by internal and/or external assessors from the same or cognate disciplines, in the manner defined in the published assessment procedures and in keeping with the practice determined by each School. The adopted practice must be at least compliant with the requirements of the relevant professional body. The use of external moderators, for undergraduate assessments, particularly for final-year major modules/courses, and of external assessors, for postgraduate assessments, assures quality.

20.2 Internal assessors and moderators, from the same or cognate disciplines, who have not taught the modules/courses,

are nominated by the Department concerned for approval by the School and normally they are the academic personnel who have not taught the students in preparation for the assessment concerned.

20.3 Unless otherwise approved by the Senate, external assessors and moderators are appropriately qualified academic professionals from the same or a cognate discipline and employed elsewhere, who are nominated by the School for appointment by the University, provided that such annually consecutive appointments are limited to a three-year cycle; a previous appointee qualifies for reappointment after at least a three-year break.

G21 DISTINCTION IN A MODULE

21.1 The minimum pass mark in any module/course is 50%, unless a higher requirement is approved in the School Rules such as when the SAPC has determined clinical performance prerequisites.

21.2 A module is passed with distinction when a final mark of 75% or more is obtained after the initial summative assessment or after a deferred summative assessment.

G22 FAILURE OF A MODULE/COURSE

22.1 A student is regarded as having failed a module/course if:

22.1.1. He or she does not fulfil all of the requirements in the module/course concerned.

22.1.2 He or she does not meet the sub-minimum requirements stipulated for any of components of the summative assessment

22.1.3 His or her final mark is less than 50%.

22.2 Subject to the provisions of Rules G26 and G27, a student shall not be permitted more than two attempts at passing a module/course even when such a student changes his or her qualification programme. This prevents a student from obtaining permission to register for the same module/course in another qualification at the University for non-qualification purposes.

G23 VIEWING AND REMARKING OF SCRIPTS

23.1 A student may view his or her summative assessment script together with the marking memorandum, to satisfy himself/herself that there are no errors in addition of marks or sections not marked. Viewing is done under the supervision of a responsible person appointed by the dean, provided that a request to do so is submitted to the head of the department within ten working days of publication of the results, excluding days on which SMU is closed. A department may as an alternative offer a student a scanned or photocopied copy of the script and may charge a reasonable price for this to cover the cost of photocopying. Should an error be discovered when viewing a marked script, corrections and rectification of omissions of marks will be approved by the Dean based on the recommendation by the Head of Department.

23.2 Remarking of assessment scripts: A student may apply in writing to the Dean for re-marking of an examination script. Such an application should be lodged by:

a. Completion of the prescribed form within ten working days of publication of the results and in accordance with the General Academic Rules of the University.

b. Payment of the applicable fee as determined by the University from time to time.

c. If permission is given, the Head of Department will arrange for re-marking of the script. Should there be any change in a student's mark as a result of script re-marking and the student should have qualified for a supplementary examination:

- A supplementary examination will be arranged at the time approved by the Dean based on the recommendation by

the Head of Department., in consultation with the Registrar, within 10 working days after the outcome of remarking.

- The fee shall be refunded if the remarking causes an improvement in the results.
- The existing mark becomes null and void and the student's final mark for the module shall be determined by the outcomes of the re-marking process.

23.3 Summative assessment scripts and recordings of oral and clinical assessments, shall be kept, in the manner prescribed in the published assessment procedures, for two years and then shredded or, in the case of recordings or oral assessments, disposed.

G24 AWARDING OF A QUALIFICATION

24.1 Conferment of a Qualification:

24.1.1 No person has a qualification conferred upon or awarded to her or him, except an honorary degree, unless, subject to Rule 24.3, she or he has fulfilled all the requirements prescribed by the Rules for the qualification.

24.2 Subject to Rule 24.3, the awarding of a qualification "with distinction" (*cum laude*), for all degrees and diplomas except for doctoral degrees (Rule G61.4), is subject to the following:

G24.3 The award of a qualification "with distinction" (cum laude) is subject to the following:

G24.3.1 the qualification must be completed within the minimum prescribed period;

G24.3.2 the student must have obtained 75% calculated as a weighted average percentage over all modules for which the student was registered and which contributed to the completion of the programme; and

G24.3.3 the student has complied with any additional criteria prescribed by school rules.

G24.4 Notwithstanding any other provision, Senate may on the recommendation of the School Board, award a Higher Certificate, Diploma or

Degree posthumously if the student had already complied with all the requirements of the qualification concerned before passing away.

G24.5 Permission to complete the qualification by obtaining credits elsewhere

G.24.5.1 Senate may, on the strength of the motivation by the Dean, and if it considers fit, permit a student who has only one or two modules of the total number of prescribed modules outstanding for a qualification who satisfies 36 the Senate that by reason of change of residence or for some other good or sufficient cause, he or she is unable to continue attending at the University.

G24.5.2 The student concerned can request to complete the outstanding module(s) at another University or at an institution recognized for this purpose in South Africa or outside the Republic of South Africa. The University reserves the right neither to confer any degree nor award any qualification to a student of the University who has outstanding university debts.

G24.6 The University reserves the right to withdraw any qualification that was awarded erroneously after completion of a thorough administrative enquiry.

G24.7 The University reserves the right neither to confer any degree nor award any qualification to a student of the University who has outstanding University debt.

G25. ADMISSION TO POSTGRADUATE STUDIES

G25.1 A candidate may not register for a postgraduate qualification unless he or she holds a bachelor's degree, except where a school rule permits otherwise.

G25.2 A student wishing to interrupt his or her studies must apply in advance for permission from the Senate to do so.

G26 LIMITATION ON THE ACTIVITY OF A STUDENT FOR REASONS OF ILL HEALTH

G26.1 The Registrar is entitled to investigate the physical or mental health of any student where he or she, on the advice of the Dean, considers it necessary in the interest of the student or in the interest of the University. In carrying out the investigation, the Registrar may require the student to obtain a medical report from, or to submit to examination by, a suitably qualified medical practitioner or psychologist acceptable to the Registrar. The University shall be responsible for any costs incurred in the course of such an investigation.

G26.2 Whenever the Registrar has a reasonable grounds to believe that a student is or may become a danger to herself or to any other person, or may cause damage to herself or himself or to any other premises occupied or under the control of the University, he or she may, in consultation with the Vice-Chancellor, place limitations on the presence or activities of that student on the University premises and the student is required to observe those limitations. Without prejudice, the Registrar may prohibit the student from:

26.2.1 Entering the precincts, or any specified part of the University, including a University controlled or University owned residence

26.2.2 Attending any lectures or any specified lectures, laboratory, clinical session or other classes or activities, whether academic or non-academic.

G26.3 A student concerned is entitled to make representation to the Vice-Chancellor to review any limitation imposed by the Registrar

G26.4 The Vice-Chancellor, at any time, may investigate the matter and having considered the representations made by the Registrar or the student concerned, may confirm, alter or set aside any limitations imposed.

G26.5 Any action taken under this rule must be pertinently reported to the next meeting of Senate and Council or the Executive Committee of Council.

G27 CONDONATION OF BREACH OF RULES

G27.1 Senate may, with retrospective effect, condone any breach of the academic rule governing a curriculum if it is satisfied that the student concerned was not at fault and would suffer undue hardship if the breach were not condoned

6. LIST OF PROGRAMMES

	QUALIFICATION	ABBREVIATION	QUAL CODE	PAGE
6.1	Higher Certificate in Vaccinology	HCert (Vaccinology)	SCV01	22
6.2	Bachelor of Pharmacy	BPharm	BPHA01	28
6.3	Postgraduate Diploma in Hospital Pharmacy Management	PG Dip HPM	PPM01	32
6.4	Postgraduate Diploma in Pharmaceutical Regulatory Affairs	PG Dip PRA	PDRP01	33
6.5	Master of Pharmacy	MPharm	MPRA01	35
6.6	Master of Pharmacy in Public Health Pharmacy and Management	MPharm (Public Health Pharmacy and Management)	PHPM01	36
6.7	Master of Pharmacy in Radiopharmacy	MPharm Radiopharmacy	MPRP01	38
6.8	Doctor of Philosophy in Pharmacy	PhD in Pharmacy	DHMA05	46
6.9	Doctor of Pharmacy	DPharm	DPHA01	47

7. SELECTION, ADMISSION & PLACEMENT RULES

7.1 HIGHER CERTIFICATE PROGRAMMES

SOP HCert 1: HIGHER CERTIFICATE IN VACCINOLOGY

SOP HCert 1.1 Purpose of qualification

The HCert (Vaccinology) is designed to equip healthcare workers (HCWs) with the theoretical knowledge and practical expertise necessary for running an up-to-date clinic offering vaccination services. The HCert (Vaccinology) introduces students to key concepts in vaccinology, and at the end of the programme students will be knowledgeable about vaccine-preventable diseases (VPDs), vaccines, vaccination and immunisation, and will be able to apply this knowledge in the practice of vaccine delivery and administration within the framework of the Expanded Programme on Immunisation of South Africa (EPI-SA).

SOP HCert 1.2 Assumption of learning already in place

(i) As the curricula for professional nurses, doctors and pharmacists are supposed to cover vaccination and immunisation to a certain extent, all participants should have some basic theoretical knowledge.

(ii) All participants should have been exposed to the delivery of vaccination services, since the programme is tailored specifically for in-service professional HCWs working in the field of vaccination.

(iii) This programme adheres to SMU's Recognition of Prior Learning (RPL) policy, which is aligned with the NQF RPL Policy. It is important to note that the entry requirements for the HCert (Vaccinology) have been set at the lowest qualification that permits South African HCWs to administer vaccinations. This is because the programme has been specifically designed to improve the vaccination practices of in-service HCWs who are responsible for the delivery of vaccination services, while all other vaccinology qualifications globally are at post-graduate level.

SOP HCert 1.3 Selection and Admission requirements

SOP HCert 1.3.1 Selection

(i) For practical reasons only a limited number of applicants can be admitted to the HCert (Vaccinology) programme. Students are therefore selected on merit by a Selection Committee and notified accordingly.

(ii) Written motivation, according to a structured template provided by the School, explaining why they should be accepted for this programme.

(iii) Note that high marks for academic performance is NOT a pre-requisite.

(iv) The HCert (Vaccinology) is offered as an online programme. Access to a computer and the internet is essential.

SOP HCert.1.3.2 Admission requirements

(i) A three-year qualification in the relevant health sciences (i.e. in which training in vaccinating is included) from a tertiary institution and are registered with the relevant statutory professional body.

Note: Although this is an entry-level (NQF 5) qualification, it is specifically tailored for in-service professional HCWs who are currently working within the field of vaccination, or who are planning to work within this field in the near future. These HCWs must therefore be qualified as nurses, doctors, or pharmacists. Thus, applicants with a matric or NQF 4 qualification can NOT be accepted.

SOP HCert 1.4 Registration

Students must register for the academic year before the closing date, as specified in the SMU General Calendar.

SOP HCert 1.5 Duration

A minimum of one year and a maximum of two years of full-time online study.

SOP HCert 1.6 Curriculum

The curriculum consists of eleven modules, which are offered online.

Module name	Credits	Learning components
Introduction to human infectious disease immunology	4	This module consists of the basic knowledge of how the human immune system works when it is exposed to natural infection, as this is the basis for how the immune system responds to vaccines
Introduction to vaccinology	4	Basic information about the principles of vaccinology, covering how vaccinology uses human host defense mechanisms to prevent infectious diseases. This includes the immuno-prophylactic process that mimics the natural immune response, and the different types of vaccines that have been developed to accomplish this.
Introduction to vaccine manufacturing and distribution	4	Basic information about vaccine manufacturing processes and distribution, including why vaccines are not manufactured in the same way as pharmaceuticals; basic production steps; testing during production; release of vaccine lots; and distribution.
Introduction to the Expanded Programme on Immunisation of South Africa (EPI-SA)	4	This module constitutes the basic information about the origins, successes in terms of global and national goals, and current targets of EPI-SA, including the strategies being used to reach these targets.
Introduction to the epidemiology of vaccine-preventable diseases and the corresponding vaccines used within the EPI	32	Basic information about the epidemiology (causative organism, transmission, population at risk, symptoms, outcomes and occurrence) of the VPDs; the vaccines used to prevent each disease, including form and presentation, how the vaccine works, safety of vaccine, effectiveness, schedule, target age group and administration.
EPI vaccination schedules and strategies in South Africa	12	This module is composed of the basic information on the different EPI vaccination schedules used in both the private and public sectors; the different vaccination strategies used in South Africa, including routine vaccination, vaccination of pregnant women, HIV-infected infants, preterm infants, infants born to mothers on TB treatment, trauma victims, healthcare workers, catch-up vaccinations, Reach Every Child (in every Community) Strategy and mass immunisation campaigns.
Introduction to cold chain management	12	This module provides the basic information on the key issues in cold chain management, including using the correct refrigerator for vaccines, packing it correctly, packing of cold boxes for transporting vaccines, doing the shake test, monitoring temperatures, using refrigerator tags, reading and being guided by vaccine vial monitors, and following the multi-dose open-vial policy of EPI-SA.
Introduction to the safe administration of vaccines	12	This module provides the basic information on the key issues related to the safe administration of vaccines, including using the correct injection equipment, avoiding needle-stick injuries and infections, positioning children correctly for injections, and the safe disposal of injection equipment
Introduction to adverse events following immunisation.	12	This module provides the basic information on the key issues regarding adverse events following immunisation (AEFIs), including prevention, management, reporting, investigation and communication.

Introduction to advocacy, communication and social mobilisation to increase vaccination uptake	12	This module provides the basic information on all the key issues around advocacy, communication and social mobilisation to increase vaccination uptake.
Monitoring and evaluation of EPI-SA	12	This module provides the basic information on the monitoring and evaluation of vaccination services, vaccination coverage and the management of data.

SOP HCert. 1.7 Assessment

Total course credits = 120 credits (NQF Level 5)

SOP HCert 1.7.1. Formative assessment

(i) Formative assessment is used throughout the programme as a teaching tool, and students are allowed to repeat all the case study formative assessments as many times as they need to in order to master each module.

SOP HCert 1.7.2 Summative assessment

(i) Once students have successfully mastered all modules, they will be assessed as Exceptionally Competent, Highly Competent, Competent or Not Yet Competent based on a summative assessment by programme faculty, of the final Portfolio of Vaccinology Theory and Practice submitted at the end of the programme and moderated by external examiners.

(ii) Students are provided with an assessment rubric at the beginning of the programme to enable self-assessment while compiling the portfolio, and programme faculty use the same assessment rubric for the evaluation of the portfolio.

SOP HCert 1.7.3 Moderation

(i) Summative assessment of all the modules will be achieved through examining each student's Portfolio of Vaccinology Theory and Practice, after which the assessments will be moderated internally and externally.

(ii) Internal moderators from SMU, and external moderators from local and international universities, are listed in the study guides for each module. The moderation processes comply with all aspects of SMU rule G20

1.7.4 Assessment criteria and exit level outcomes

Exit level outcomes: Candidates will be able to …	**Associated Assessment Criteria:**
Understand human host defense mechanisms against infectious diseases.	Candidates will be assessed on their ability to explain why humans need to defend themselves against infectious diseases, and this includes (a) explaining the contribution of infectious diseases to human morbidity (sickness) and mortality (death), with an emphasis on developing countries; and (b) outlining the characteristics of bacteria and viruses that allow these organisms to cause disease in humans. Second, candidates will be assessed on their ability to explain how the human immune system works, and this includes (a) explaining the differences between non-specific and specific (adaptive) immunity; (b) defining the two arms of adaptive immunity; and (c) outlining how the two arms of adaptive immunity work.
Understand & describe the basics of vaccinology.	Candidates will be assessed on their ability to outline how vaccinology mimics human host defense mechanisms to prevent infectious diseases, and this includes (a) explaining what a vaccine contains; (b) outlining how vaccines work; and (c) describing what makes an ideal vaccine. Second, candidates will be assessed on their ability to describe the different types of vaccines, and this includes (a) differentiating between live and killed / inactivated vaccines; (b) differentiating between whole cell and subunit / fractional vaccines; and (c) describing the different nomenclatures of vaccines.
Understand and describe how the different vaccines are manufactured and distributed.	First, candidates will be assessed on their ability to explain how vaccines are manufactured, and this includes (a) differentiating between vaccines and pharmaceuticals in terms of manufacturing; (b) listing the basic steps in vaccine manufacturing; (c) listing the tests conducted during production; and (d) listing the different authorities responsible for releasing vaccine lots. Second, candidates will be assessed on their ability to explain how vaccines are distributed, and this includes (a) explaining at what stage vaccines can be distributed; (b) explaining why and under what conditions vaccines are distributed; (c) listing the packing requirements for the distribution of vaccines; (d) explaining the requirements for the conditions under which vaccines should be transported; and (e) explaining the importance of following standard operating procedures in the distribution of vaccines.
Understand and describe the origins, successes and current targets of EPI-SA.	First, candidates will be assessed on their ability to explain the origins of EPI and EPI-SA, and this includes (a) explaining why and when the World Health Organization launched the EPI; (b) listing the vaccines. Second, candidates will be assessed on their ability to explain the successes of EPI-SA, and this includes (a) describing how EPI-SA is addressing global health priorities including the Sustainable Development Goals, the Global Polio Eradication Initiative, the Decade of Vaccines and the Global Vaccine Action Plan; listing the diseases that have been eradicated or eliminated, including the years when these were eradicated / eliminated; and (c) listing the vaccines that have been successfully integrated into the EPI-SA from 1995 to 2014. Third, candidates will be assessed on their ability to discuss the current targets of the EPI-SA, and this includes (a) listing the current targets of the EPI-SA; and (b) explaining the strategies being followed to meet these targets.
Understand and describe the epidemiology of the VPDs prevented by EPI-SA, and explain all aspects of the vaccines used to prevent them.	First, candidates will be assessed on their ability to discuss the epidemiology of infectious diseases prevented by EPI-SA. This includes (a) naming the causative organisms of all VPDs targeted by EPI-SA; (b) outlining how the causative organisms are transmitted; (c) describing the population at risk for each VPD; (d) listing the symptoms of each VPD; (e) listing the outcomes of each VPD; and (f) explaining where morbidity and mortality from VPDs occur (global, sub-Saharan Africa and South Africa). Second, candidates will be assessed on their ability to list and describe the different vaccines used within EPI-SA. This includes (a) describing the form and presentation of each vaccine; (b) explaining how each vaccine works; (c) describing the safety profile of each vaccine; (d) describing the effectiveness of each vaccine; (d) listing

Exit level outcomes: Candidates will be able to …	Associated Assessment Criteria:
	the schedule/s for each vaccine; (d) naming the target age group for each vaccine; and (e) describing how each vaccine is administered.
Recall the vaccination schedules (private and public sectors); explain the different vaccination strategies within EPI-SA; and apply the above schedules and strategies in practice.	First, candidates will be assessed on their ability to recall the vaccination schedules and different vaccination strategies within EPI-SA. This includes (a) listing the EPI-SA vaccine schedule including all the vaccines given at the specific ages; and (b) listing the vaccine schedules used in the private sector of South Africa, including all the vaccines given at the specific ages. Second, candidates will be assessed on their ability to explain the different vaccination strategies within EPI-SA. This includes (a) explaining the basis for using the WHO's accelerated routine vaccination strategy in South Africa; (b) listing the vaccines that must be given to pregnant women, and when they should be given; (c) listing the vaccines that must not be given to pregnant women; (d) explaining the strategy for vaccinating HIV-positive babies; (e) explaining the strategy for vaccinating pre-term infants; (f) explaining the strategy for vaccinating infants born to mothers on TB treatment; (g) naming the vaccines that must be given to trauma victims; (h) listing the vaccines that healthcare workers should receive; (i) describing the catch-up vaccination strategy for babies who have missed vaccines; (j) explaining the Reach Every Child (in every Community) Strategy; and (k) explaining the strategy of mass immunisation campaigns. Third, candidates will be assessed on their ability to apply the above schedules and strategies in practice. This includes (a) selecting the correct vaccines for 10 hypothetical babies relevant for their age, HIV-status, whether or not their mothers are on TB treatment, and taking into account if catch-up vaccination is needed; (b) selecting the correct vaccines for 10 hypothetical pregnant women relevant for their immunisation history and stage of pregnancy; and (c) as a healthcare worker, having proof of vaccination with all relevant vaccines.
List and describe all the key issues of cold chain management and apply cold chain management in your vaccinology practice.	First, candidates will be assessed on ability to list and describe all the key issues of cold chain management. This includes (a) describing the requirements for the ideal refrigerator for storing vaccines; (b) explaining how to pack a vaccine refrigerator correctly; (c) describing the process of preparing and packing cold boxes for transporting vaccines; (d) describing how to do the shake test; (e) listing the steps for monitoring temperatures; (f) listing the procedures to follow when cleaning a vaccine refrigerator; (g) explaining how to use refrigerator tags; (h) describing how to read a vaccine vial monitor, and what steps to take based on the readings; (i) recalling the multi-dose open-vial policy of EPI-SA; and (j) explaining the importance of following written standard operating procedures in cold chain management. Second, candidates will be assessed on their ability to apply cold chain management in practice. This includes (a) demonstrating how to pack a vaccine refrigerator correctly; (b) demonstrating the process of preparing and packing cold boxes for transport of vaccines; (c) demonstrating the shake test; (d) demonstrating how to use a refrigerator tag; (e) demonstrating how to clean a vaccine refrigerator; (f) reading at least five vaccine vial monitors, and stating the correct steps based on the readings; and (g) checking all conditions to demonstrate adherence to the multi-dose open-vial policy of EPI-SA for all relevant vaccines.
List and describe all the key issues around the safe administration of vaccines and apply safe vaccination procedures (i.e. vaccinators must demonstrate practical skills; non-vaccinators must demonstrate application of theory).	First, candidates will be assessed on their ability to list and describe all the key issues around the safe administration of vaccines. This includes (a) describing the correct injection equipment; (b) explaining how to avoid needle-stick injuries and infections; (c) describing how to position children correctly for injections; and (d) outlining the steps for safe disposal of injection equipment. Second, candidates will be assessed on their ability to apply safe vaccination procedures (i.e. vaccinators must demonstrate practical skills; non-vaccinators must demonstrate application of theory). This includes (a) using the correct injection equipment for at least 10 simulated vaccinations; (b) avoiding needle-stick injuries while performing these simulated vaccinations; (c) position dummy babies correctly when administering these simulated vaccinations; and (d) safely dispose of injection equipment after these simulated vaccinations.

Exit level outcomes: Candidates will be able to …	Associated Assessment Criteria:
Explain all the key issues regarding AEFIs and apply AEFI- related procedures in practice.	First, candidates will be assessed on their ability to explain all the key issues regarding AEFIs. This includes (a) explaining how to prevent AEFIs; (b) discussing the management of AEFIs; (c) describing the reporting of AEFIs; (d) explaining how AEFIs are investigated; and (e) outline AEFI communication. Second, candidates will be assessed on their ability to apply AEFI-related procedures in practice. This includes (a) demonstrating management of 10 hypothetical AEFIs; (b) identifying the correct AEFI forms that must be used and completing these forms, providing the event description for each hypothetical AEFI; and (c) simulate the reporting of these AEFIs.
Describe all the key issues around advocacy, communication and social mobilisation to increase vaccination uptake; and advocate / communicate effectively about vaccination in order to mobilise the community towards increased vaccination coverage.	Candidates will be assessed on their ability to describe all the key issues around advocacy, communication and social mobilisation to increase vaccination uptake. This includes (a) explaining the meaning of advocacy and who advocacy is directed at; (b) discussing the meaning of communication, who is included in communication, and when communication is successful; (c) listing the essential information that must be given to caregivers when communicating about vaccination; (d) explaining the meaning of social mobilisation; (e) explaining why advocacy, communication and social mobilisation are needed; (f) discussing how to build trust; (g) listing the different types of explanations and when they should be used; and (h) discussing how to counter anti-vaccination myths. Second, candidates will be assessed on their ability to advocate / communicate effectively about vaccination in order to mobilise the community towards increased vaccination coverage. This includes (a) communicating essential vaccination information to 10 hypothetical caregivers who have no questions about vaccinating their babies; and (b) giving relevant explanations to 10 hypothetical caregivers who have asked questions about vaccination.
Describe how immunisation programmes are monitored and evaluated; and monitor and evaluate vaccination services, vaccination coverage and data management.	Candidates will be assessed on their ability to describe how immunisation programmes are monitored and evaluated, inclusive of (a) explaining the importance of immunisation data; (b) listing the main EPI indicators used for monitoring EPI performance; (c) describing the use of basic data collection tools; and (d) explaining the processes for data collection. Second, candidates will be assessed on their ability to monitor and evaluate vaccination services, vaccination coverage and data management inclusive of (a) using the relevant data collection tools while collecting data from a hypothetical clinic; (b) processing the data correctly; and (c) reporting on the main EPI indicators.

SOP HCert 1.8 Recognition of Prior Learning (RPL)

(i) Vaccination experience will furthermore be recognised as prior learning amongst HCWs admitted into the programme.

(ii) Modules 6 to 11 all have practical assignments which are based on vaccination practices. Students who are already competent in vaccination practices and can produce evidence of this competency, will be able to submit this evidence and thus be exempt from completing these assignments. Their supervisor / manager / employer will be required to complete and sign a certificate of practice for each specific task, and these certificates will form part of the Portfolio of Vaccinology Theory and Practice. Thus, full credits for these practical assignments will be allocated to these students.

(iii) Students would not have accumulated credits for the online parts of the Modules, since these Modules are unique to the HCert (Vaccinology), and have been designed to keep vaccinators up-to-date with the very latest developments within the field of vaccinology.

7.2 BACHELOR PROGRAMME

SOP B 1: B PHARM PROGRAMME (BPHA01)

SOP B 1.1 SELECTION

SOP B 1.1.1 Selection Process

Successful applicants will be admitted into first year level. The BPharm Selection Committee will screen all candidates who comply with the selection requirements and the successful candidates will be informed of the outcome of the selection process by the Enrolment office.

All applicants will be screened and included based on the National Demographic profile of the country, made up of 81% African, 8% White, 8% Coloured and 3% Indians.

SOP B 1.1.2 National Senior Certificate Applicants

National Senior Certificate (NSC) applicants require the following minimum Admission Point Score (APS)

The APS for the candidate will be calculated by using the APS grade in Table 2. The candidates will be ranked according to their APS.

Table 1: Minimum APS score

Subject	Level
Life Sciences	5
Mathematics	5
Physical Sciences	5
English	5
Life Orientation	
Two additional subjects: preferably Accounting & Economics	
Total points required (minimum)	32

Table 2. APS points per percentage

APS %	APS Points
80 – 100%	7
70 – 79%	6
60 – 69%	5
50 – 59%	4

Note:

Due to the limited number of places available and the competitive nature of the degree programme attainment of the minimum requirements stated in Table 1 does not guarantee admission.

SOP B 1.1.3 Non-South African should obtain the following:

(I) A-Levels in the following subjects: mathematics, physical science, Life Sciences and English
(II) A National Senior Certificate on exemption certificate from the relevant recognized registered body in South Africa.

SOP B 1.1.4 Other applicants

Applicants without university exemption who have completed appropriate training within the requirements of the National Qualifications Framework will be considered (e.g. formally trained pharmacists' assistants, pharmacy technicians)

provided that they are in possession of a matriculation certificate with the following subjects: Mathematics, Life Sciences, Physical Sciences and English with a minimum APS level of 5 per subject.

SOP B 1.1.5 Graduates

(i) Graduates with Health Sciences/BSc degrees will be considered only for enrolment into First Year.
(ii) Marks obtained during the degree will be scored according to the table below.

Table 3: Points awarded for particular scores on academic transcript.

Percentage obtained	POINTS
≥75	24
70-74	16
65-69	12
60-64	8
55-59	4
≤54	0
Fail	0
A subject passed after a supplementary examination	0

(iii) Points are allocated according to the above table to all courses.

The process of the calculation will be as follows:

- Each subject is awarded a score based on the percentage achieved as per the table below.
- The percentage will be rounded off to the nearest decimal
- In the event a subject has been completed as a supplementary result, the score awarded will
- be zero
- In the event of year of study being repeated or a subject being repeated in a subsequent year
- of study, all attempts at the subject are scored and each counts as a course for the purposes
- of this calculation.
- These are then added together and divided by the number of subjects included
- The minimum score which will be considered eligible is 12
- Candidates with a minimum of 12 points qualify for selection process.
- The time to complete the degree is also taken into account. A three or four-year Health Sciences/BSc completed in the minimum time: two additional credits (+2)
- Honours Degree: one additional credit if achieved in minimum time (+3).
- Honours Degree: one additional credit if achieved in minimum time without distinction (+2).
- Master's Degree: one additional credit if achieved in minimum time with distinction (+2)
- Master's Degree: one additional credit if achieved in minimum time without distinction (+1)
- Doctorate degree (+2)

SOP B 1.1.6 Transfers from SMU and/or other universities

- Applicants with incomplete Health Sciences/BSc degrees will be considered only for enrollment into First Year.
- Preselection will include Matric and First-year half year results (if available). Selection is on a competitive basis and a student's average mark should be 70% and above.
- Each application will be considered by the Selection Committee and ranked based on their academic outcomes.

Final selection and the number of spaces is predetermined by the office of Institutional Planning annually, and will be based on the following distribution:

- 90 % of the students comprises of:

- Pre-selected students now given substantive offers on grounds of either having maintained their performance in the SMU Admission score
- Students selected from the remaining pool of applicants from other school leaving assessments

- % who have completed their first degree at SMU. This includes students from other disciplines. Selection will be based on a calculation of points for each symbol.
- 4 % of the students who have excelled in BSc or equivalent first year courses at SMU.
- 2 % of the students who have completed a first degree at another University.

SOP B 1.1.7 General information for registration with the South African Pharmacy Council (SAPC):

All students admitted to the first year of study must register with the SAPC before 31 March of the relevant year. Please contact the School of Pharmacy for further information.

The SAPC requires the following documents and fee before registration can be effected:

(I) Birth Certificate.
(II) National Senior Certificate. If the above certificate does not indicate a pass in Mathematics a further certificate to the effect that an examination in Mathematics of a standard at least equivalent to that of the standard grade in the Matriculation Examination has been passed, is required.
(III) Certificate of having commenced professional study for the degree.
(IV) Registration fee as determined by the SAPC.

SOP B 1.1.8 Internship

After qualification, graduates must undertake a one-year period of internship, during which they must satisfactorily complete a pre-registration examination for entry-level pharmacists. They are then required to complete one year in the recognized sector (often a public sector) as a community service pharmacist, before proceeding to full registration as a pharmacist.

Note: These rules must comply with the proposed regulations of the SA Pharmacy Council as promulgated in terms of the Pharmacy Act, as amended.

SOP B 1.2 Curriculum

(i) The BPharm programme will be presented in semester module format.
(ii) The BPharm curriculum will be updated continuously to reflect statutory requirements.

BPharm I		
Semester 1		
Module 1	Introduction to Pharmacy	MPIT011
Module 2	From atoms to medicines	MATO011
Semester 2		
Module 3	Biopharmaceutics, pharmacokinetics and pharmacodynamics	MPHR012
Module 4	Microorganisms, man and medicines	MPMM012
Module 5	Nutrition and gastroenterology	MPMB012
Year Course	English for Health Sciences	MEHS010

BPharm II		
Semester 1		
Module 1	Principles and practice of pharmaceutical manufacturing	MPPP021
Module 2	Industrial pharmacy practice	MPIP021
Module 3	Industrial pharmacy practice-based learning	MPCB021
Semester 2		
Module 4	Cardiovascular pharmacy	MPCA022
Module 5	Respiratory system, ear and eye	MPRE022
Module 6	Primary health care practice-based learning	MPPH022
BPharm III		
Semester 1		
Module 1	Sterile pharmaceutical products	MPMC031
Module 2	Community pharmacy practice	MPMA031
Module 3	Community pharmacy practice-based learning	MPML031
Semester 2		
Module 4	Modern technologies in healthcare	MPMT032
Module 5	Endocrine and reproductive pharmacy	MPMB032
Module 6	Musculo-skeletal, skin conditions and pain management	MPMC032
BPharm IV		
Semester 1		
Module 1	Advanced research methodology and project	MPMR040
Module 2	Neurological and psychiatric pharmacy	MPMB041
Module 3	Hospital pharmacy practice	MPMA041
Module 4	Specialised pharmacy	MPMC041
Semester 2		
Module 5	First aid	MPMA042
Module 6	Hospital-based pharmaceutical care	MPMB042
Module 7	Hospital pharmacy practice-based learning	MPMC042

SOP B 1.2.1 Completion of requirements for promotion

No student shall be permitted to register for any course in the following year of study unless s/he has passed all required courses of the previous year. Permission to do so may be granted in exceptional cases by Senate on the recommendation of a School Board.

SOP B 1.2.2 Moderation

All summative assessments will be moderated according to the General Rules

Internal moderation – 10% of all examination scripts, all examination scripts of students who failed, all examination scripts of students who obtain 74%

SOP B 1.2.3 Admission to the final assessment

Only students meeting all the BPharm set requirements (Rules 14.1.1- 14.1.3) will be admitted to the summative assessment.

In order to adhere to Rule G14.1.2 all students must sign the attendance register for each learning activity and may NOT sign on any other student's behalf.

SOP B 1.2.4 Late submission of assessments

No late submissions of assessments will be accepted. The student is required to submit to the Head of Department via the Module Coordinator concerned, a medical certificate/ proof of the unavoidable circumstance, within 48 hours of the date of the assessment which could not be attended or completed.

SOP B 1.2.5 Supplementary assessment

(i) BPharm IV (final year) students who fail more than one module, following reassessments must repeat the year.

SOP B 1.2.6 Exemption

Only students repeating a year are eligible for exemption from a module. A student may be granted exemption from a module if s/he has passed the appropriate end-of-module examination.

SOP B 1.2.7 Confidentiality

Due to the privileged nature of information about patients/clients and their care plans, students will be expected to refrain from sharing this information except in the professional context of communications with staff, faculty, or colleague students in the course. In any descriptions of patient status in journals or written reports, patient initials should be used instead of the patient's full name. Non-observance of confidentiality requirements is a serious matter and will result in disciplinary action.

In addition to the University requirements, students should take note of any statutory guidelines as outlined by the relevant Professional bodies.

7.3 POSTGRADUATE DIPLOMA PROGRAMMES

SOP PGDip 1: PG DIP IN HOSPITAL PHARMACY MANAGEMENT (100)

SOP Dip 1.1 Purpose of qualification

The primary purpose of the qualification is to provide qualifying learners with comprehensive management skills to manage a hospital pharmacy effectively.

SOP Dip 1.2 Assumption of learning already in place

(i) Applicants for this qualification should be competent in operating as registered pharmacists within all sections of a hospital pharmacy.

(ii) This qualification recognises, through the submission of portfolios of evidence, the formal/non - formal/informal prior knowledge which learners who register for the programme bring to the learning situation.

SOP Dip 1.3 Admission requirements

Applicants for admission must hold a bachelor's degree in pharmacy from a recognised university or an equivalent qualification.

SOP Dip 1.4 Duration

A minimum of one year of part-time study.

SOP Dip 1.5 Curriculum

The curriculum consists of five modules:

MHOC180: Financial Management
MHOB180: Human Resources Management MHOD180: Medicines
MHOE180: Research in Hospital Pharmacy Management
MHOA180: The management process

SOP Dip 1.6 Assessment

(i) Continuous assessment through work-related group and individual projects.
(ii) Continuous and summative assessment is integrated mainly through work-related assignments.

Total course credits = 120 credits

SOP PGDip 2: PG DIP IN PHARMACEUTICAL REGULATORY AFFAIRS

SOP Dip 2.1 Purpose of qualification

The program's intended purpose is to train students to become working professionals in Pharmaceutical Regulatory Affairs. At the end of this course, students will:

- cover the core topics one must know to effectively lead others within regulatory agencies or the regulatory department of a pharmaceutical company.
- cover critical areas such as regulatory frameworks, drug development processes, quality assurance, compliance standards, and pharmacovigilance.
- gain a comprehensive understanding of the complex and evolving regulatory landscape in the pharmaceutical industry.
- equip with the necessary knowledge and skills to create high-quality applications for the registration of health products, ensuring compliance with National Health and Drug Policies.

SOP Dip 2.2 Admission requirements

SOP Dip 2.2.1 Entry requirements

Applicants for admission must hold B.Pharm NQF Level 8 or cognate scientific bachelor's degree on NQF Level 7 or cognate Advanced Diploma on NQF Level 7. Candidates without B.Pharm are expected to have at least two years of experience in the pharmaceutical manufacturing sector.

Candidates who hold a qualification obtained outside of South Africa must submit the Evaluation of Foreign Qualification certificate from the South African Qualifications Authority (SAQA).

SOP Dip 2.2.2 Selection Criteria

After the closing date for applications, a paper selection is conducted, based on all the information received. Only candidates whose applications meet all the requirements (e.g. complete academic records, referees' reports) by the due date will be considered for selection guided by the rules and regulations of the University's selection committee. Students who meet the admission criteria will be screened for access to this programme regardless of gender and race according to the SMU Selection and Admission Policy.

Note: Please note that space for this program are limited. Preference will be given to applicants who hold a Bachelor of Pharmacy (B.Pharm) degree and/or have relevant experience in the pharmaceutical industry, including areas such as manufacturing, quality assurance, quality control, and regulatory affairs. Consideration will also be given to ensure appropriate demographic representation in line with institutional and national transformation objectives. In addition, spaces for applicants with foreign qualifications are limited to a maximum of two. Meeting the minimum requirements does not guarantee selection.

SOP Dip 2.2.3 Duration

- Minimum duration (years) for completion: 1 Year
- Maximum duration (years) for completion: 2 years
- A student who interrupts his/her studies retains credit for modules passed for a maximum period of two years,
- subject to Rule G10 in the General Calendar of the Sefako Makgatho Health Sciences University (see Rule G9).
- Total course credits = 120 credits (NQF Level 8)

SOP Dip 2.3 Curriculum

The curriculum consists of six compulsory modules:

Module name	NQF Level of the module	No. of credits per module	Compulsory or elective	Semester (1,2)	Duration (Weeks)
Module 1: MRAI081 Administrative Information	8	20	Compulsory	1	8
Module 2: MREL081 Enabling Legislation and Licensing	8	20	Compulsory	1	4
Module 3: MGMP081 Good Manufacturing Practice (GMP)	8	20	Compulsory	1	6
Module 4: MRGP082 Other Good Practices	8	20	Compulsory	2	5
Module 5: MRQB082 Quality and Bioequivalence	8	20	Compulsory	2	8
Module 6: MRSE082 Safety and efficacy	8	20	Compulsory	2	5
Total course credits = 120 credits					

7.4 MASTER'S DEGREE PROGRAMMES

SOP M 1: MASTER OF PHARMACY (MPHARM)

SOP M 1.1 Introduction

The MPharm programme is either offered as a Full-time programme or as a Part-time programme. Both options are offered as either

(i) Research only requiring a full dissertation.
(ii) Modular-based programme requiring the completion of coursework and a minor-dissertation.

SOP M 1.2 Options offered

The MPharm programme offers the following options:

(i) Clinical Pharmacy
(ii) Pharmaceutical Sciences
(iii) Public Health Pharmacy and Management
(iv) Pharmacy Practice
(v) Any other area in Pharmacy

SOP M 1.3 Admission

An applicant must meet the university's entry requirements. Thereafter, the applicant is subject to a selection process, specific for entry into the MPharm programme. Due to the nature of the programme and assessment methods, admission to the MPharm programme is at first year level only.

SOP M 1.4 Selection requirements

(i) Candidates must be in possession of a BPharm Degree OR Equivalent.
(ii) At least 60% obtained as an average final mark for the relevant module(s) or course(s) which meet(s) the prerequisite(s) for access to the master's programme of learning.
(iii) Candidates who hold a qualification obtained outside South Africa must submit the Evaluation of Foreign Qualification certificate from the South African Qualifications Authority (SAQA).
(iv) Candidates must preferably, be registered as a pharmacist with the South African Pharmacy Council (SAPC) or equivalent if working in a foreign country. Those not registered as pharmacists will also be considered.

SOP M 1.5 Selection procedures

(i) Phase 1: Preliminary selection takes place from July - September. Places are limited and admission is subject to selection procedures. This is a paper-based process where each application form and supporting documentation is critically analysed and a mark is given based on the following components.
   (a) Academic achievements: At least 60% obtained as an average final mark for the relevant module(s) or course(s) which meet(s) the prerequisite(s) for access to the master's programme of learning.
   (b) Experience within the field of study
   (c) Motivation and recommendations for request to study.

(ii) Phase 2: Takes place from September - October. Candidate will be invited to a selection process which consists of two components. The aim is to select applicants with potential to complete the MPharm degree. The components are as follows:

(a) Interview component (Motivation, knowledge, experience, future goals)
(b) Skills writing component (Interpretation of a scientific publication, which includes writing skills, grammar and computer literacy)

(iii) Phase 3: Final selection The MPharm Selection Committee will screen all applicants who underwent the Phase 2 selection process. Two lists will be compiled: Accepted and Regret. Applicants on both lists are informed about the outcome of the selection process.

SOP M 1.6 Curriculum

The curriculum consists of

- Core Modules
- Elective Modules and
- MPharm Research Project

Coursework and minor dissertation programme

Code	Course Title
MPMB090	Mini-Dissertation
MPMC090	Pharmacy Modular Component Exam

Research programme

Code	Course Title
MPMA090	Dissertation

SOP M 2: MASTER OF PHARMACY IN PUBLIC HEALTH PHARMACY AND MANAGEMENT [MPHARM (Public Health Pharmacy and Management)]

SOP M 2.1 Introduction

The MPharm in Public Health Pharmacy and Management is a professional degree and is offered as a modular-based programme requiring the completion of coursework and a minor-dissertation. The purpose of this professional

Master's qualification is to extend the public health and pharmaceutical management competencies of pharmacists to become specialists in the field of public health pharmacy, apply their expertise in this field and add value to the provision of pharmaceutical services within the health system. Successful completion of this qualification will enable specialist pharmacists to contribute to public health outcomes and pharmaceutical services management. The qualification is inherently a practice-based degree with a significant component of work-integrated learning.

SOP M 2.2 Admission

An applicant must meet the university's entry requirements. Thereafter, the applicant is subject to a selection process, specific for entry into the MPharm programme. Due to the nature of the programme and assessment methods, admission to the MPharm programme is at first year level only.

SOP M 2.3 Minimum selection requirements

(i) Candidates must be in possession of a Bachelor's degree in Pharmacy (NQF level 8) or equivalent

(ii) At least 60% obtained as an average final mark for the relevant module(s) or course(s)* which meet(s) the

prerequisite(s) for access to the Master's programme.

(iii) Registration with the South African Pharmacy Council as a pharmacist post community service or as an academic intern

(iv) Candidates who hold a qualification obtained outside South Africa must submit the Evaluation of Foreign Qualification certificate from the South African Qualifications Authority (SAQA).

(v) Exposure to a public health pharmacy and management environment and/or placement in the area of specialization

***Relevant modules**, referred to in Point 1.3 (ii) includes all subjects from the discipline of Pharmacy Practice, and will depend on the titles of subjects assigned by the institution where the degree was obtained. Examples of relevant modules include Hospital Pharmacy Management, Community Pharmacy Practice, Specialised Pharmacy Services, Managed Health Care, Promote Public Health, Good Pharmacy Practice, Medicines Logistics, Communication for Pharmacists. The School of Pharmacy Calendar will be updated with the detail regarding relevant modules for each MPharm option, once the qualification is accredited and registered.

SOP M 2.4 Selection procedures

(i) Phase 1: Preliminary selection takes place from July - September. Places are limited and admission is subject to selection procedures. This is a paper-based process where each application form and supporting documentation is critically analysed and a mark is given based on the following components
   (a) Academic achievements: At least 60% obtained as an average final mark for the relevant module(s) or course(s) which meet(s) the prerequisite(s) for access to the master's programme of learning
   (b) Experience within the field of study
   (c) Motivation and recommendations for request to study

(ii) Phase 2: Takes place from September - October. Candidate will be invited to a selection process which consists of two components. The aim is to select applicants with potential to complete the MPharm degree. The components are as follows:
   (a) Interview component (Motivation, knowledge, experience, future goals)

(iii) Skills writing component (Interpretation of a scientific publication, which includes writing skills, grammar and computer literacy)

(iv) Phase 3: Final selection The MPharm Selection Committee will screen all applicants who underwent the Phase 2 selection process. Two lists will be compiled: Accepted and Regret. Applicants on both lists are informed about the outcome of the selection process.

SOP M 2.5 Curriculum

This qualification consists of the following compulsory and elective modules at NQF Level 9 totaling 240 Credits.

Modules		**Credits**
Fundamental modules	Management and Leadership Principles	24
	Introduction to Epidemiology and Biostatistics	24
Core modules	Management of Pharmaceutical Services	20
	Pharmaceutical Public Health Management	28
	Medicines Selection and Procurement	12
	Medicines Supply and Distribution	12
	Rational Medicines Use and Monitoring	12
	Pharmacoeconomics	12
Pharmacy Research	Pharmacy Mini-Dissertation	80
Elective module	Public Health Pharmacy Specific elective	16
Total		**240**

SOP M 3: MASTER OF PHARMACY IN RADIOPHARMACY

SOP M 3.1 Introduction

The MPharm Radiopharmacy programme is offered as a full-time modular-based programme, requiring the completion of coursework and a minor-dissertation. The objective of the MPharm Radiopharmacy degree is to train pharmacists with a specialised and practical knowledge of Radiopharmacy in the Southern African setting. The degree aims to provide a broad-based foundation in Radiopharmacy, which can be built upon.

SOP M 3.2 Admission

An applicant must meet the university's entry requirements. Thereafter, the applicant is subject to a selection process, consisting of an interview and a writing skills test. Due to the nature of the programme and assessment methods, admission to the MPharm Radiopharmacy programme is at first year level only.

SOP M 3.3 Selection requirements

- Candidates must be in possession of a BPharm Degree OR Equivalent.
- At least 60% obtained as an average final mark for the interview and writing skills test.
- Candidates who hold a qualification obtained outside South Africa must submit the Evaluation of Foreign Qualification certificate from the South African Qualifications Authority (SAQA).
- Candidates must be registered as a pharmacist with the South African Pharmacy Council (SAPC) or equivalent if working in a foreign country.

SOP M 3.4 Selection procedures

Phase 1: Preliminary selection takes place from July - September. Places are limited and admission is subject to selection procedures. This is a paper-based process where each application form and supporting documentation is critically analysed and a mark is given based on the following components:

- Academic achievements
- Knowledge and experience within the field of study
- Motivation and recommendations for request to study

Phase 2: Takes place from September - October. Candidate will be invited to a selection process, which consists of two components. The aim is to select applicants with potential to complete the MPharm Radiopharmacy degree. The components are as follows:

- Interview component (Motivation, knowledge, experience, future goals)
- Skills writing component (Interpretation of a scientific publication, which includes writing skills, grammar and computer literacy)

Phase 3: Final selection - The MPharm Selection Committee will screen all applicants who underwent the Phase 2 selection process. Two lists will be compiled: Accepted and Regret. Applicants on both lists are informed about the outcome of the selection process.

SOP M 3.5 Curriculum

The Master of Pharmacy in Radiopharmacy (MPRP01) curriculum consists of seven modules detailed below:

Module code	Module name	Module content	SAQA credits (Total of 240)
MPLP090	Pharmaceutical Care, Laboratory Tests and Pharmacokinetics	Formulate pharmaceutical care plans and interpret prescriptions to guide treatment for individual patients. Counsel patients to improve treatment outcomes. Use clinical information, laboratory and diagnostic tests and results to assist with, or support, therapeutic assessments and decisions. Apply basic and clinical pharmacokinetics and pharmacodynamics for individualised patient care	6
MRRR090	Radiopharmacology, Radiopharmaceutics and Radiochemistry	Apply scientific knowledge in radiopharmacy services	40
MPOR090	Practice of Radiopharmacy	Production/preparation safe handling, quality control and management of radiopharmaceuticals and the radiopharmacy.	38
MMPR090	Medical Physics for Radiopharmacy	Basic nuclear medicine physics Radioactivity Radiation detection systems Nuclear counting instruments and counting statistics Nuclear medicine imaging using gamma scintillation camera Use of computers in nuclear medicine Tracer kinetic studies Radiopharmaceuticals and quality control Internal dosimetry Radiation protection in nuclear medicine PET/ SPECT/ CT as special imaging devices Clinical studies Requirements for the safe use of unsealed radioactive nuclides	34
MNMR090	Nuclear Medicine for Radiopharmacy	Appropriate radiopharmaceutical choice and use in Nuclear Medicine in routine diagnostic and therapeutic use as well as in clinical studies	40
MPMD090	Radiopharmacy Research Mini Dissertation	Conduct research and prepare for publication in the field of Radiopharmacy	72
MRSE090	Radiopharmacy Specific Elective	Report on an elective topic. Topics for electives may include but are not limited to: • Hospital radiopharmacy • Radiopharmaceutical manufacture, production or compounding • Radiopharmaceutical clinical trials Regulation of radiopharmaceuticals	10

SOP M 3.6 Duration

The duration of study for the degree programme is subject to the stipulations under Rule G11 in the General Calendar of the Sefako Makgatho Health Sciences University.

Minimum duration period: 2 years
Maximum duration period: 4 years

A student who interrupts his/her studies retains credit for modules passed for a maximum period of two years, subject to Rule G10 in the General Calendar of the Sefako Makgatho Health Sciences University (see Rule G9).

SOP M 3.7 Assessment

Total course credits = 240 credits (NQF Level 9)

Subminimum mark criteria for the coursework:

The following subminimum criteria will apply:

- Each individual formative assessment: 40%.
- Each summative assessment: 40%.
- To qualify for summative evaluation a minimum of 40% for formative evaluations must be obtained.
- For all components of the formative evaluation, a minimum of 40% must be obtained. If this has not been obtained, the component has to be repeated.
- Final pass mark (Total Formative plus Summative mark): 50%.
- To qualify for a supplementary examination a final mark of 40% is required.
- If the final mark achieved in a block is 50% or more, but the summative assessment mark is below 40%, the student will sit for a supplementary examination.
- Calculation of the final mark following a supplementary examination will be the same as that after the summative assessment with the supplementary examination mark substituting the summative assessment mark. The maximum final mark allocated can only be 50%.

SOP M 3.8 Summative assessment of coursework:

Summative assessment of the programme will include written examinations, a project presentation and course assignments.

A deferred examination will only be allowed if the student has a valid medical certificate and has notified the School in advance. A completed *"Request for leave of absence from formal academic activities"* form with the supporting documents, e.g. Medical Certificate, must be submitted to the course secretary within 24 hours of the examination. All formative assessment activities are compulsory and contribute towards the final course mark. Each assessment activity has a due date for submission. No extensions will be granted to the predetermined due dates.

A minimum mark of 40% needs to be obtained in each assessment activity. If a mark lower than 40% is obtained, you will be granted the opportunity to resubmit a response only once, within two weeks of being informed of the resubmission. Resubmission of an assessment activity will result in obtaining a maximum mark of 50% for that particular activity.

Each submitted assessment activity must contain a completed *"Declaration of authenticity"* form.
Entrance to the summative written examination will not be allowed, unless all formative assessment activities have been submitted and the sub-minimum mark of 40% has been achieved for each assessment.

Learning Area	Exit Level Outcomes	Associated Assessment Criteria	Notional Hours
Fundamental	*Exit Level Outcome 1:* Apply scientific knowledge in radiopharmacy services Range statement: The range of scientific knowledge will include, but is not limited to • Radiation theory and Medical Physics instrumentation • Production and properties of radionuclides • Radiopharmaceutical localisation, mode of action, half- life and dosimetry • Aseptic preparation and quality control or radiopharmaceuticals **[42 credits]**	*Assessment Criteria for Exit Level Outcome 1:* 1. Discuss the role of radiopharmacy in Nuclear Medicine in diagnosis and therapy. 2. Medical Physics: Explain atomic theory, decay processes, mathematics of radioactivity decay, interaction of radiation with matter, types of radioactivity and radiation detection (instrumentation and cameras at basic level only). 3. Radiochemistry: Describe and explain production of radionuclides (natural, reactor, cyclotron, generators). Explain properties of commonly-used diagnostic and therapeutic radionuclides, their chemistry and the principles of the use of ligands and chelating agents. 4. Radiopharmacology: Explain the localisation and mode of action of common radionuclides and radiopharmaceuticals, physical and biological half-life and dosimetry. 5. Radiopharmaceutics: Explain and demonstrate aseptic radiolabelling techniques and quality control for radiopharmaceuticals.	420

Learning Area	Exit Level Outcomes	Associated Assessment Criteria	Notional Hours
Fundamental	*Exit Level Outcome 2:* Promote safe handling of radiation sources and radiopharmaceuticals in compliance with relevant South African legislation. **[14 credits]**	*Assessment Criteria for Exit Level Outcome 2:* 1. Explain and apply legislation relevant to radiopharmacy services in the South African context[1]. 2. Discuss and apply local and international guidelines relevant to the production, distribution, use and disposal of radionuclides and radiopharmaceutical products. 3. Describe and demonstrate the principles of the "as low as reasonably achievable" (ALARA) concept and the importance of distance, shielding and time in radiation protection and radiation exposure limits. 4. Demonstrate the practical implementation of radiation protection principles.	140
Fundamental	*Exit Level Outcome 3:* Institute Quality Management in radiopharmacy according to current Good Radiopharmacy Practice (cGRPP) and in compliance with GMP in radiopharmaceutical production **[16 credits]**	*Assessment Criteria for Exit Level Outcome 3:* 1. Introduce and maintain a Quality Management System. 2. Design and implement environmental requirements for a radiopharmacy, including choice, operation and maintenance requirements of Laminar Flow hoods and isolators. 3. Undertake facility inspections and audits. 4. Prepare, apply and monitor Standard Operating Procedures (SOPs) for radiopharmacy processes. 5. Assure radiopharmacy equipment calibration and implement maintenance and cleaning programmes. 6. Complete documents and maintain and review records in accordance with applicable legislation and SOPs. 7. Discuss the role of international organisations in training and standards. 8. Describe the GMP approach for radiopharmaceuticals and explain validation processes.	160

Learning Area	Exit Level Outcomes	Associated Assessment Criteria	Notional Hours
Core	*Exit Level Outcome 4:* Produce, procure, distribute and dispose of radiopharmaceuticals according to cGRPP and in compliance with GMP in radiopharmaceutical production. **[10 credits]**	*Assessment Criteria for Exit Level Outcome 4:* 1. Describe the legislative status of key radiopharmaceuticals and radionuclides. 2. Explain and apply the production principles of radiopharmaceuticals in nuclear reactors, cyclotrons and generators. 3. Order, receive, store and maintain the inventory of radiopharmaceuticals, ancillary drugs, supplies and related materials according to cGRPP. 4. Distribute radiopharmaceuticals to the user according to cGRPP (packaging, labelling and transport). 5. Conduct radionuclide and radiopharmaceutical waste management according to current South African legislation[2] and cGRPP. 6. Manage the ordering of and record-keeping for Section 21 radiopharmaceuticals.	100
Core	*Exit Level Outcome 5:* Compound and dispense radiopharmaceuticals, radiolabelled blood elements, biologicals and other novel radiopharmaceutical dosage forms according to GPP, cGRPP and recognised international standards and applicable legislation[3] **[18 credits]**	*Assessment Criteria for Exit Level Outcome 5:* 1. Compound radiopharmaceuticals according to GPP and cGRPP. Perform generator elution, kit reconstitution, preparation of products not commercially available and other radiolabeling procedures. 2. Dispense radiopharmaceuticals according to GPP and cGRPP, including evaluation of the prescription, preparation of bulk vials or individual patient doses for delivery to the user and prepare and reconstitute cold kits. 3. Blood products: Prepare radiolabelled red and white cells and other blood elements according to local or ISORBE protocols. 4. Compound, manipulate and prepare sterile admixtures according to SOPs, in accordance with aseptic techniques and principles of GMP and/or GPP. 5. Appraise sterilisation methods for commonly used radiopharmaceuticals. 6. Manage radiopharmacy cleaning programmes so that sources and risks of microorganism contamination are reduced.	180

Learning Area	Exit Level Outcomes	Associated Assessment Criteria	Notional Hours
		7. Manage record systems for radiopharmaceutical preparations produced in accordance with legal requirements and organisational policies and procedures.	
Core	*Exit Level Outcome 6:* Conduct and monitor Quality Management for radiopharmaceuticals and instrumentation in radiopharmacy. **[14 credits]**	*Assessment Criteria for Exit Level Outcome 6:* 1. Describe in detail the principles of Radiopharmacy Quality Management in hospitals and in production facilities. 2. Conduct functional checks of instruments, equipment and devices. 3. Determine radiopharmaceutical quality and purity requirements for radionuclidic, radiochemical and chemical purity. 4. Evaluate and ensure particle size, sterility and apyrogenicity of radiopharmaceuticals. 5. Ensure completion and filing of appropriate records in accordance with cGRPP.	140

Learning Area	Exit Level Outcomes	Associated Assessment Criteria	Notional Hours
Core	*Exit Level Outcome 7:* Monitor and promote diagnostic accuracy and successful treatment outcomes as an active member of the Nuclear Medicine team. Range statement: The range of conditions includes but is not limited to disorders and diseases, commonly seen in Nuclear Medicine, of the following systems: • Cardiovascular • Central Nervous System • Endocrine • Gastrointestinal • Hepatobiliary • Lymphatic • Pulmonary • Renal • Skeletal **[26 credits]**	*Assessment Criteria for Exit Level Outcome 7:* 1. Describe the pathophysiology of key disease states seen in Nuclear Medicine. 2. Apply the principles of Pharmaceutical Care and patient monitoring. 3. Interpret clinical laboratory results. 4. Interpret laboratory tests associated with the identification and quantification of pathogens. 5. Explain the mode of action of common radionuclides and radiopharmaceuticals. 6. Analyse the rationale for the choice of specific radiopharmaceuticals in common conditions (disease or suspected diagnosis, age and gender of the patient, contra- indications, radio-pharmaceutical availability and cost-containment issues). 7. Evaluate patient preparation with regard to prevention or recognition of drug or food interactions before radiopharmaceutical administration. 8. Appraise the administration and clinical use of commonly-used radionuclides and radio-pharmaceuticals. 9. Demonstrate active participation in decision-making in the Nuclear Medicine team.	260
Core	*Exit Level Outcome 8:* Act as part of a multidisciplinary team to provide information and consultation on radiopharmaceuticals andgood radiopharmacy practice and in clinical trials. **[8 credits]**	*Assessment Criteria for Exit Level Outcome 8:* 1. Communicate radiopharmacy information (e.g. teaching, policies and procedures for the care of specific patients) to members of the health care team. 2. Record, identify and address radiopharmaceutical causes of scintigraphic anomalies. 3. Explain and demonstrate clinical trial methodology and Good Clinical Practice.	80

Learning Area	Exit Level Outcomes	Associated Assessment Criteria	Notional Hours
Core	*Exit Level Outcome 9:* Conduct research and prepare for publication in the field of Radiopharmacy. Range statement: Research may include, but is not limited to, the following areas: Development of new radiopharmaceuticals, Laboratory testing of radiopharmaceuticals, Compounding procedures, Quality assurance or quality control methods, Clinical use of radiopharmaceuticals, Radiopharmaceuticals management. **[80 credits]**	*Assessment Criteria for Exit Level Outcome 9:* 1. Critically evaluate information sources, literature and research on medicines and practices in terms of evidence for decision-making and implementation in practice. 2. Apply the principles of research methodology in the development of a research protocol. Obtain ethical clearance if necessary. 3. Conduct research in accordance with established research methodology and ethics, as well as Good Clinical Practice where necessary. *4.* Analyse data, interpret findings and/or results and formulate conclusions and recommendations. *5.* Write and submit a technical report, manuscript for publication or minor dissertation and obtain approval.	800
Elective	*Exit Level Outcome 10:* Choose an elective topic. Topics for electives may include but are not limited to: • Hospital Radiopharmacy • Radiopharmaceutical manufacture, production or compounding • Radiopharmaceutical clinical trials • Regulation of radiopharmaceuticals **[12 credits]**	*Assessment Criteria for Exit Level Outcome 10:* 1. Demonstrate a deep knowledge of the chosen elective field of radiopharmacy, for transition to independent practice.	120

7.5 DOCTORAL DEGREE PROGRAMMES

The General Rules for postgraduate students apply.

Applicants must be in possession of an appropriate master's degree in Pharmacy or have received status from Senate according to the rules such Admission.

SOP D 1: PhD DEGREE PROGRAMME

SOPD 1.1 Admission requirements

Unless otherwise indicated, the General Rules for postgraduate students apply.

A candidate for the degree of PhD shall execute during not less than two academic years advanced research under the guidance of a supervisor appointed by Senate. The student shall in the first year, enroll for and pass the courses:
REME801 Research Methodology, and
PROD801 Protocol Development, unless he/she can provide proof of having passed these courses within the previous five years.

The research may take place in the University or in an institution deemed by the Senate to be part of the University for this purpose.

SOPD 1.2 Selection and admission requirements

1.2.1 Selection

For practical reasons only a limited number of applicants can be admitted to the degree programme. Students are therefore selected on merit by a Selection Committee and notified accordingly.

Students who have been refused re-registration in a School of Pharmacy at any other University shall not be admitted to this Pharmacy School

1.2.2 Admission requirements

Students with a suitable MSc or equivalent degree in Pharmacy may be accepted for full-time study in the fields of interest of staff members and are required to complete a thesis.

SOPD 1.3 Examination of the thesis

A candidate for the degree of PhD shall execute during not less than two academic years of research work. The research may take place in the University or in an institution deemed by the Senate to be part of the University for this purpose.

A thesis on a research project approved in advance by the University Ethics Committee on recommendation of the Head of the Department and prepared under the direction of a supervisor appointed by Senate.

For each admitted PhD student Senate shall appoint a supervisor who shall have at least the same qualification, failing which a co-supervisor with the required qualification shall be appointed.

The General rules for doctoral degrees apply to the examination of the thesis.

SOP D2: DPHARM DEGREE PROGRAMME

SOP D2.1 Introduction

The DPharm programme is either offered as a Full-time programme or as a Part-time programme.

SOP D2.2 Options offered

The DPharm programme offers the following options

i. Clinical Pharmacokinetics and Dynamics
ii. Clinical Pharmacy
iii. Industrial Pharmacy
iv. Public Health Pharmacy and Management
v. Radiopharmacy

SOP D2.3 Selection

To be admitted, the applicant must meet the university's entry requirements. Thereafter, the applicant is subject to a selection process, specific for entry into the DPharm programme

- Candidates must be in possession of a Master's degree or equivalent
- Before a candidate is accepted for doctoral study, the programme coordinator concerned must be convinced that the candidate has sufficient knowledge and working experience of the field of study to be able to fulfil the requirements for the degree.
- Candidates who hold a qualification obtained outside South Africa must submit the Evaluation of Foreign Qualification certificate from the South African Qualifications Authority (SAQA).
- Candidates must be registered as a pharmacist with the South African Pharmacy Council (SAPC) or equivalent if working in a foreign country with adequate experience working as a pharmacist in the chosen area of field of study.
- Candidates must be working in an environment with sufficient practical exposure of the field of study to be able to fulfil the requirements for the degree.

8. PROFESSIONAL BODY REQUIREMENTS

See selection requirements and/or admission requirements under points 6.1, 6.2, 6.4 and 6.5

9. MODULAR INFORMATION

9.1 SYLLUBUSES FOR PROGRAMMES OFFERED IN THE SCHOOL

HIGHER CERTIFICATE in VACCINOLOGY

MODULAR INFORMATION					
Department:	Department of Public Health Pharmacy and Management			**School:**	Pharmacy
Last Revision date:		**First Year Offered (New):**	2019		
Replace this Module existing module(s)?	**No**	**If YES, give the module codes:**			
Module linked to Qualification/s:	HCert (Vaccinology)				
Migration Strategy:	**No**	(If YES, Section G must also be completed)			

Module Code: (4 alphabetic & 3 numeric)	VACC101
Module Name:	Vaccinology for healthcare professionals
Content:	Introduction to the human immune response against infectious diseases; Introduction to vaccinology; Introduction to vaccine manufacture and distribution; Introduction to EPI-SA; Introduction to the epidemiology of vaccine-preventable diseases and the corresponding vaccines used within EPI-SA; EPI-SA vaccination schedules and strategies; Introduction to cold chain management; Introduction to the safe administration of vaccines; Introduction to adverse events following immunisation; Introduction to advocacy, communication and social mobilisation to increase vaccination uptake; monitoring and evaluation of EPI-SA.

Learning Outcomes:	Students will be able to: (a) describe human host defence mechanisms against infectious diseases; (b) explain human host defence mechanisms again infectious diseases; (c) describe how vaccinology uses these host defence mechanisms to prevent infectious diseases; (d) explain how vaccines are manufactured and distributed; (e) describe the origins, successes and current targets of the Expanded Programme on Immunisation of South Africa (EPI-SA); (f) describe the epidemiology of infectious diseases prevented by EPI-SA; (g) describe the different vaccines used within EPI-SA; (h) describe the vaccination schedules (private and public sectors) and different vaccination strategies within EPI-SA; (i) apply these schedules and strategies in practice; (j) describe all the key issues of cold chain management; (k) apply cold chain management in practice; (l) describe all the key issues around the safe administration of vaccines; (m) apply safe vaccination procedures (i.e. vaccinators must demonstrate practical skills; non- vaccinators must demonstrate application of theory); (n) explain all the key issues regarding adverse events following immunisation (AEFI); apply AEFI-related procedures in practice; (o) describe all the key

	issues around advocacy, communication and social mobilisation to increase vaccination uptake; (p) advocate / communicate effectively about vaccination in order to mobilise the community towards increased vaccination coverage; (q) explain how immunisation programmes are monitored and evaluated; (r) monitor and evaluate their own vaccination services, coverage and data management				
Module Information:	**SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)**		**ITS Course Level**		**CESM Code (3rd Order) (Six Numbers)**
	120		1		130506
Delivery Information:	**Campus**		**Full/Part Time**		**Period (Year/1st/2nd Sem)**
	SMU		Full time online		Year
Periods per week:	**Classes**	**Practicals**	**Tutorial**	**Seminars**	**Independent Learning**
					40 hours
Pre-requisite modules for this module:	None				
Co-requisites modules for module:	None				

Assessment criteria	Students will be assessed on their ability to: 1. Describe why humans need to defend themselves against infectious diseases. 2. Describe how the human immune system works. 3. Describe how vaccinology uses these host defence mechanisms to prevent infectious diseases. 4. Explain how vaccines are manufactured and distributed. 5. Describe the origins, successes and current targets of the Expanded Programme on Immunisation of South Africa (EPI-SA) 6. Describe the epidemiology of infectious diseases prevented by EPI-SA 7. Describe the different vaccines used within EPI-SA 8. Describe the vaccination schedules (private and public sectors) and different vaccination strategies within EPI-SA 9. Apply these schedules and strategies in practice. 10. Describe all the key issues of cold chain management. 11. Apply cold chain management in practice. 12. Describe all the key issues around the safe administration of vaccines. 13. Apply safe vaccination procedures (i.e. vaccinators must demonstrate practical skills; non-vaccinators must demonstrate application of theory) 14. Explain all the key issues regarding adverse events following immunisation (AEFI) 15. Apply AEFI-related procedures in practice. 16. Describe all the key issues around advocacy, communication and social mobilisation to increase vaccination uptake. 17. Advocate / communicate effectively about vaccination in order to mobilise the community towards increased vaccination coverage. 18. Explain how immunisation programmes are monitored and evaluated. 19. Monitor and evaluate their own vaccination services, coverage and data management.
Assessment method	**Formative assessment:** • Fully automated. A bank of scenario-based MCQs (at least 30 for each learning outcome to begin with; more to be added as necessary. Scenarios updated every year) with answers loaded on Blackboard. Four scenarios, each with four different outcomes (only one of which is correct), randomly allocated by Blackboard, thus each student has a unique random selection. After test, correct outcome given; written explanations of why this is correct and why other outcomes are incorrect. If student failed first attempt, learning materials to be revised, and 4 new scenarios

<table>
<tr><td colspan="3"></td><td colspan="4">randomly allocated at next attempt. Repeated until student passes.
• During the programme students to develop a Portfolio of Vaccinology Theory and Practice. A first draft of this portfolio (including completed pre- and post-module questionnaires with proof of Blackboard assessments) to be assessed mid-year; with formative feedback given for improvement.
Summative assessment:
Final Portfolio of Vaccinology Theory and Practice assessed at end of programme. Final portfolio contains completed pre- and post-learning outcome questionnaires, Blackboard assessment results, and practice certificates.</td></tr>
<tr><td rowspan="4">Mark Structure:</td><td colspan="2">Minimum Form Assessment Mark for exam admission (%)</td><td colspan="4">Submission of final Portfolio</td></tr>
<tr><td rowspan="2"></td><td>% Formative Assessment Mark</td><td colspan="4">Not applicable</td></tr>
<tr><td>% Summative Assessment Mark</td><td colspan="4">100%</td></tr>
<tr><td colspan="2">Minimum final mark to pass (%)</td><td colspan="4">50%</td></tr>
<tr><td rowspan="5">Summative Assessment Paper:</td><td colspan="2"></td><td>Paper 1</td><td>Paper 2</td><td>Paper 3</td><td>Paper 4</td></tr>
<tr><td colspan="2">Theory/practical</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td></tr>
<tr><td colspan="2">Duration</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td></tr>
<tr><td colspan="2">% contribution to Summative Assessment Mark</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td></tr>
<tr><td colspan="2">Sub minimum</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td></tr>
</table>

BPHARM DEGREE PROGRAMME

(BPharm 1)

Introduction to Pharmacy (BPharm I)

MPIT011	**Introduction to Pharmacy**		**Credits:20**
per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	Orientation in the educational institutions, administration, student bodies, general organisation and layout of campus. A broad overview of the course presentation and learning strategy, language, social, communication and academic skills. Overview of the nature of the profession and the ethics and professionalism involved. Site visits to the various sectors of pharmacy practice National Drug Policy, selection, procurement, distribution, including the cold chain. Applicable legislation. Drug information. Rational drug use. Essential Drug Lists and treatment protocols. Drug pricing. Ethics, Good Pharmacy Practice. Interaction with other health professionals.		
Learning Outcomes:	To demonstrate the mastering of basic life skills To demonstrate understand the ethos of the Pharmacy Profession To describe the role of the pharmacist in the pharmaceuticals management cycle To describe the ethical, legal and organizational framework for the pharmaceuticals To describe the role of the National Drug Policy in the achievement of equitable and effective pharmaceuticals management		
Assessment Criteria:	Demonstrate the mastering of basic life skills. Demonstrate understand the ethos of the Pharmacy Profession Describe the role of the pharmacist in the pharmaceuticals management cycle Describe the ethical, legal and organizational framework for the pharmaceuticals. Describe the role of the National Drug Policy in the achievement of equitable and effective pharmaceuticals management		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40%Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		

Summative Assessment:		**Paper 1**	**Paper 2**	**Paper 3**
	Theory / Practical	Theory	Oral	Practical
	Duration	3 hrs	30 min	3 hrs
	% contribution to Summative Assessment Mark	50	20	30
	Sub minimum	40%	40%	40%

From Atoms to Medicines (BPharm I)

MATO011	From Atoms to Medicines		Credits:32
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	Drug entities of synthetic, organic/inorganic nature: structure, reactivity, bonding, acid-base characteristics, configuration and conformation, periodic table, redox reactions, salt formation, pH, pKa, limit tests, physical phases. Analytical methods. An overview of the design and development of pharmaceutical products. Research and development of drug delivery systems; chemistry of medicinal compounds – introductory organic chemistry, the reactions that drug compounds undergo, physical and chemical properties of drugs and how these affect formulation; isolation / synthesis of active ingredients; pre-formulation; formulation; basic principles underlying the development of drug delivery systems; the various drug delivery systems; stability aspects; an introduction to pre-clinical and clinical trials; compounding of medicines.		
Learning Outcomes:	Students will be able to describe the following: The acid base characteristics, chemical bonds and compounds, physical and chemical properties of different molecules and medicinal compounds in relation to structure relation activities The chemical properties of medicinal compounds that influence the development and formulation of medicine delivery system dosage forms The different analytical methods in organic and inorganic chemistry		

	Mark			
	Sub minimum	40%	40%	

Biopharmaceutics, pharmacokinetics and pharmacodynamics (BPharm I)

MPHR012	Biopharmaceutics, pharmacokinetics and pharmacodynamics		Credits:24
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	An introduction to biopharmaceutics - processes prior to drug administration; pharmacokinetics - processes including drug absorption, distribution, metabolism and excretion (with emphasis on the kidney); and pharmacodynamics - drug action; therapeutic drug monitoring.		
Learning Outcomes:	Students need to understand and apply the following: • Overview of health care interventions – a pharmacist's perspective • The biopharmaceutical, pharmacokinetic and pharmacodynamic phases of drug therapy • Pharmaceutical factors that influence the release of a drug from its dosage form • The pharmacokinetic characteristics of drugs • The relevance of pharmacokinetics to drug therapy • Factors that influence the pharmacokinetic processes		
Assessment Criteria:	Students will be assessed on their knowledge and applications of the following aspects: • Importance of preventive, symptomatic and curative measures for maintaining good health • Differentiation between the three phases: biopharmaceutical phase, pharmacokinetic phase and the pharmacodynamic phase. • Importance of disintegration, deaggregation and dissolution on drug absorption, biological/elimination half-life. • The drug delivery process (LADMER), drug absorption and the factors that influence this process, bioavailability, drug metabolism, anatomy and physiology of the kidney and its role in drug excretion		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3 hrs	3 hrs

	% contribution to Summative Assessment Mark	50	50
	Sub minimum	40%	40%

Microorganisms, Man and Medicines (BPharm I)

MPMM012	**Microorganisms, Man and Medicines**		**Credits:24**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	A study of the medically important microorganisms, including bacteria, viruses, fungi, protozoa, helminths and arthropods. Biological and microbiological aspects of structure, growth, diagnosis, virulence, pathogenesis, sensitivity/resistance and transmission. An introduction to the body's defences against infection, including the lymphatic system, cells of the immune system and inflammatory and hyper-sensitivity reactions. Antimicrobial agents used in infections.		
Learning Outcomes:	Students should be able to: • Discuss the immune system and the reaction to infections • Name and classify the most common microorganisms involved in infectious diseases • Discuss signs, symptoms and causes of common infections • Discuss the treatment options for common infections including HIV • Discuss the role of the pharmacist in treating these infections		
Assessment Criteria:	Students will be assessed on understanding and applying the following: • The immune system and the body's reaction to infections and inflammation • Name and classify the most common microorganisms involved in infectious diseases • signs, symptoms and causes of common infections • Treatment options for common infections including HIV • The role of the pharmacist in treating these infections		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3 hrs	3 hrs
	% contribution to Summative Assessment Mark	80	20
	Sub minimum	40%	40%

Nutrition and Gastroenterology (BPharm I)

MPMB012	**Nutrition and gastroenterology**		**Credits:20**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	An anatomical and physiological overview of the liver and gastrointestinal tract (GIT) and their innervation, with particular emphasis on the absorption and metabolism of nutrients and drugs. The functioning of autonomic nervous system. Water, electrolyte and acid-base balance in the body. Major problems of nutrition and metabolic/chronic disorders for which nutrition plays a pivotal role, including diabetes, obesity, eating disorders, malabsorption, alcohol abuse and pancreatitis. The identification of the presence of risk factors for malnutrition. The chemistry, pharmaceutics and pharmacology of drugs, affecting the gastrointestinal tract and drugs used to treat common GIT problems.		

Learning Outcomes:	Students should be able to describe and discuss the following • Anatomy of GIT • Physiology of GIT • H20 and electrolyte balance • Nutrition Process • Health System • Eating, Ages and Malnutrition • Drug Nutrient interactions • Gastroenterology • Clinical Nutrition		
Assessment Criteria:	Students will be assessed on their ability to: • Describe the anatomy and physiology of the digestive system and accessory organs. • Outline the neural regulation of GI functions with emphasis on relevant cranial nerves, brain centres and organs innervated by autonomic nervous system (ANS) • Outline the ANS physiology with emphasis on neural pathways and receptors. • Discuss the ANS pharmacology with emphasis on receptors and classes of drugs used to stimulate or inhibit the GI autonomic functions. • Outline the endocrine, paracrine and neurocrine regulation of GI functions. • Review the biochemistry of water, electrolytes, acids and bases. • Outline the concept homeostasis and list the components of physiological control. • Outline the physiological regulation of water balance, electrolyte balance and acid-base balance. • List the causes, signs and symptoms, prevention, dietary and pharmacological management of water, electrolyte and acid-base balance disorders. • Explain the classification, basic biochemistry, physiological functions, dietary sources, digestion and metabolism of macronutrients. • Describe the health effects of over and under-consumption of macronutrients. Identify the health supplements of the macronutrients and state their indications, advantages, disadvantages and interactions. • Discuss the major vitamins and minerals and population groups at risk of under- or over-consumption of them. • Discuss the regulation and formulation of nutritional supplements. • Describe the health effects of over and under consumption of macronutrients. • Identify the health supplements of the macronutrients and state their indications, advantages, disadvantages and interactions. • Outline the pathophysiology of selected conditions of the GI tract as listed in the STG/EDL's at primary and secondary health care level (constipation, diarrhoeal diseases, nausea and vomiting, GORD ulcers) • Explain the preventative, non-pharmacological and pharmacological management of the above GI disorders. • Describe the principles and processes of Clinical Nutrition		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3 hrs	2 hrs
	% contribution to Summative Assessment Mark	60	40
	Sub minimum	40%	40%

English for Health Science (BPharm I)

MEHS010	English for Health Sciences		Credits:12
Lectures per week	**Practicals per week**	**Tutorials per week**	
3		2	
Content:	Academic Language Skills: Reading Skills: text organization (structure), how grammar carries meaning, vocabulary development, the importance of purposeful reading, reading and interpreting graphic information, reading and using different types of sources, critical reading. Academic reading Writing skills: understanding the writing process, effective writing strategies at sentence, paragraph and essay levels, writing and assessment, referencing techniques, journaling techniques (for practical and clinical). Oral presentation of written and research work.		
Learning Outcomes:	1. Develop reading skills including visual literacy to read with understanding a wide range of print and non-print texts to enable acquisition and understanding of new information relevant to the needs and demands of society, to participate in community-based learning and service and research; and for personal development (life skills). 2. Develop writing skills for English communication of acquired learning, effective response to assessment, across the curriculum as well as for healthcare practice, community engagement and research. 3. Develop computer skills around commonly used computer software programmes including PowerPoint, MS Word, Excell, the use of tables and graphs, E-mail as well as Blackboard - FHS online learning platform. The content should integrate the module outcomes. 4. Develop Information literacy skills to be able to use a variety of technological and information resources (e.g., library skills, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge, and to conduct research to establish evidence-based practice and to role model the specific module topics as well as to promote health and well-being of the reference population. 5. Apply a holistic approach to life skills promoting health and wellbeing, developing an awareness of their own stage of development as an adolescent studying at university, as well as an awareness of the overall social and community outcomes of their learning programmes. This will		
	include approaches to solving contemporary social and healthcare issues such as HIV, rape, abortion, family planning and patient safety 6. Apply academic study skills to achieve learning outcomes including creating in dividual action plans (online student portfolio of evidence) for their study; engaging students in their own learning; developing self-regulated learners; strengthening faculty/student relationships; promoting student retention and success.		

Assessment Criteria:	Demonstrate the effective application of a wide range of reading strategies including visual literacy to comprehend, interpret, evaluate, and appreciate print and non-print texts relevant to health sciences and health and well-being literacy including: - text organization - grammar - vocabulary development - reading faster with improved understanding - interpreting graphic information - using key words for accessing information on the - internet - critical and interactive reading to extract explicitly stated ideas, to understand implied ideas, guess meanings of unfamiliar words and vary language use with synonyms and antonyms. Given the learning programme and the current best practices in healthcare practice and research, demonstrate proficiency and confidence to apply: - the English language structure - language conventions (e.g., spelling and punctuation) - media techniques - figurative language - genre to create, critique, and discuss print and non-print texts relevant to the health sciences learning programmes and healthcare practice and research context Exhibit an understanding of the technology that underpins today's life and workplace infrastructure taking many forms such as text, images, mobile, video, computer simulations, multi-media, Internet etc. to find, translate, integrate and communicate knowledge to different audiences (e.g. co-professional workers or patients/family) Demonstrate the effective use of information literacy which deals with using library efficiently for study and reference purposes encompassing: - authoring - information finding and organisation - research process - plagiarism and referencing - information analysis and synthesis - assessment and evaluation Show adequate English proficiency and confidence in discussing lifestyle issues and ways of achieving a healthy lifestyle including approaches to solving contemporary social and healthcare issues such as HIV, rape, abortion, family planning and patient safety Display adequate academic study skills that raise student awareness of significant factors that influence learning outcomes and engage students to develop a skill and habit for: - creating individual action plans for their study - engaging in their own learning - developing themselves as lifelong self-regulated learners - strengthening faculty/student relationships - promoting student retention and success
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%

Summative Assessment:		**Paper 1**
	Theory/ Practical	Theory
	Duration	3hours
	Sub minimum	100%
	% Contribution to summative assessment mark	40%

BPharm 2

Principles and Practice of Pharmaceutical Manufacturing (BPharm II)

MPPP021	**Principles and Practice of pharmaceutical manufacturing**		**Credits:24**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	An overview of the manufacturing of pharmaceuticals. Physical, chemical and pharmaceutical principles in the formulation, production, packaging and labelling of pharmaceutical products.		
Learning Outcomes:	Students should be able to describe and discuss • Overview of manufacturing of pharmaceuticals • Physio-chemical and pharmaceutical principles and production • Manufacturing of different dosage forms • Manufacturing processes • Selection, procurement and quality control of raw materials • Packaging and labeling of pharmaceutical products		
Assessment Criteria:	Students will be assessed on their ability to: Demonstrate knowledge and application of the chemistry, biosynthetic and isolation of a selected group of medicinal plants and animals constituents, which are pharmacologically active and are used in the manufacture of or as lead compounds in the production of medicines and cosmetics. Identify and describe the components comprising the selection and procurement cycle Discuss the quality control and quality assurance processes and legal stipulations involved in the procurement of pharmaceutical raw materials and components Describe and discuss the unit processes and equipment used in the production of the listed dosage forms Explain relevant physical, chemical and pharmaceutical principles and apply to selected examples of the listed dosage form List the various pharmaceutical packaging materials and discuss their advantages and disadvantages Discuss the packaging process and describe the packaging and labeling methods Discuss the quality control and quality assurance processes involved in packaging and labeling and highlight the role of the pharmacist		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3 hrs	3 hrs
	% contribution to Summative Assessment Mark	60	40
	Sub minimum	40%	40%

Industrial Pharmacy Practice (BPharm II)

MPIP021	Industrial Pharmacy Practice		Credits:20
Lectures per week	Practicals per week	Tutorials per week	
4	1	4	
Content:	An overview of pharmaceutical manufacturing facility and organizational layout. Planning for production. The manufacturing facility. The principles and practice of quality assurance, including Good Manufacturing Practices and quality control.		
Learning Outcomes:	Students should be able to describe and discuss • Overview of Industrial Pharmacy Practice • The formulation, registration and stability testing of new products • The planning of the production process • The facilities, materials and resources for manufacturing new products • Quality assurance in pharmaceutical manufacturing		
Assessment Criteria:	Students will be assessed on their ability to: Discuss the registration of a new product formulation Identify the functional units, departments and their activities Illustrate the interrelationship between functional units, departments and their activities Identify and describe the components comprising the selection and procurement cycle Discuss the quality control and quality assurance processes and legal stipulations involved in the procurement of pharmaceutical raw materials and components Describe and discuss the unit processes and equipment used in the production of the listed dosage forms List the various pharmaceutical packaging materials and discuss their advantages and disadvantages Discuss the packaging process and describe the packaging and labeling methods Discuss the quality control and quality assurance processes involved in packaging and labeling and highlight the role of the pharmacist		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3 hrs	3 hrs
	% contribution to Summative Assessment Mark	70	30
	Sub minimum	40%	40%

Industrial Pharmacy Practice-Based Learning (BPharm II)

MPCB021	Industrial Pharmacy Practice-Based Learning		Credits:20
Lectures per week	Practicals per week	Tutorials per week	
1	4	1	
Content:	Practical experience in aspects of the medicines regulatory process, production of pharmaceuticals, pharmaceutical research and development, implementing good manufacturing procedures, quality assurance, personnel and business management as well as the marketing and advertising of pharmaceuticals.		
Learning Outcomes:	Students should be able to describe and discuss Research and Development Regulatory affairs Quality Control Quality Assurance Sales and Marketing		
Assessment Criteria:	Students will be assessed on their ability to: • Identify the functional units, departments and their activities		

	• Illustrate the interrelationship between functional units, departments and their activities • Describe and discuss the unit processes and equipment used in the production of the listed dosage forms • Explain relevant physical, chemical and pharmaceutical principles and apply selected examples of the listed dosage forms • Explain quality control procedures, relate them to their applications in the pharmaceutical manufacturing process and carry out selected examples in respect of the listed dosage forms • Identify and describe the components comprising the selection and procurement cycle • Discuss the quality control and quality assurance processes and legal stipulations involved in the procurement of pharmaceutical raw materials and components • List the various pharmaceutical packaging materials and discuss their advantages and disadvantages • Discuss the packaging process and describe the packaging and labeling methods • Discuss the quality control and quality assurance processes involved in packaging and labeling and highlight the role of the pharmacist		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Portfolio of evidence	Oral
	Duration		30 min
	% contribution to Summative Assessment Mark	70	30
	Sub minimum	40%	40%

Cardiovascular Pharmacy (BPharm II)

MPCA022	**Cardiovascular Pharmacy**		**Credits:20**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	An overview of the anatomy and physiology, and nervous system control, of the cardiovascular and renal systems. The pathophysiology of the major disorders affecting the cardiovascular and renal systems. The pharmacology of the therapeutic agents used to treat these disorders, including antimicrobials.		
Learning Outcomes:	• Students need to know and understand the anatomy and physiology of the cardiovascular system and the kidney • Students need to discuss the pharmacology of the different medicines used in cardiology		
Assessment Criteria:	Students will be assessed on their ability to: • Describe the anatomy, physiology and relevant nervous system control of the cardiovascular system (CVS) • Describe the anatomy and physiology of the blood • Outline the pathophysiology of selected conditions of the blood as listed in the STG/EDLs at primary and secondary health care levels • Explain the preventative, non-pharmacological and pharmacological management of selected conditions • Discuss the role of the pharmacist in the prevention and treatment of relevant blood conditions • Outline the pathophysiology of selected conditions of the CVS, blood, kidneys as listed in the STG/EDLs at primary and secondary health care levels		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative		**Paper 1**	**Paper 2**

Assessment:	Theory / Practical	Theory	Practical
	Duration	3 hrs	3 hrs
	% contribution to Summative Assessment Mark	50	50
	Sub minimum	40%	40%

Respiratory System, Ear and Eye (BPharm II)

MPRE022	**Respiratory System, Ear and Eye**		**Credits:24**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	The structure and functioning of the respiratory system, ear and eye. The role of the nervous system in controlling the functioning of the respiratory system, ear and eye. Important disorders of the respiratory system, ear and eye and their prevention, non-pharmacological and pharmacological management. Therapeutic drug monitoring and pharmaceutical calculations. Formulation of medication used in the respiratory system, ear and eye.		
Learning Outcomes:	Students should be able to describe and discuss • The anatomy of the respiratory system, both the upper and lower parts • The anatomy of the ear and the relationships between the ear, noses and throat (ENT) • The basic principles of optics and physiology of vision • Pathophysiology and conditions • Applicable antimicrobials • Formulation of aerosols –Pulmonary & Nasal Drug Administrations • Procedures and Diagnosis		
Assessment Criteria:	Students will be assessed on their ability to: • Describe the anatomy of the respiratory system, both the upper and lower parts • Describe the anatomy of the ear and the relationships between the ear, notes and throat (ENT) • Describe and explain diagrammatically the anatomy of the eye • Discuss the physiology of the upper and lower parts of the respiratory system • Define respiration • Explain the physiology of the different aspects of respiration including the nervous control • Describe the common tests used to evaluation respiratory function • Describe the physiology of hearing and equilibrium including the nervous control • Explain the basic principles of optics and describe the physiology of vision • Discuss the causes, epidemiology, pathogenesis, signs and symptoms and diagnosis of common disorders affecting the respiratory tract • Drugs used in the management of no-infectious diseases of the lower respiratory tract: asthma, COPDs (Chronic Obstructive Pulmonary Diseases) and cystic fibrosis • Prophylactic measures, Describe the prevention of disorders of the respiratory tract • Discuss the pathophysiology of common disorders affecting the eye, conditions and drugs that produce visual pathology • Discuss the management of respiratory tract diseases. • Discuss the safety, efficacy and quality of the drug classes used in the management of these diseases • Minor conditions and symptoms usually treated symptomatically: allergic conditions, rhinitis, sore throat, common cold, influenza, cough • Review the concept of TDM and apply concepts in respiratory medicines • Summarise the prevention and treatment of occupationally-induced and drug-induced respiratory conditions. • Discuss drugs which cause respiratory depression • Describe the chemical properties of drugs used in the management of respiratory diseases • Describe the chemical properties of drugs used in the management of respiratory diseases • Describe the pharmacological and non-pharmacological management of disorders of the ear • Drug and disease-related hearing disorders • Describe the pharmacological and non-pharmacological treatment of disorders of the eye • Discuss drugs used therapeutically • Drugs used in infectious conditions: sinusitis, tonsillitis, pharyngitis, diphtheria, epiglottitis,		

	lanyngitis/croup, bronchitis, whooping cough, pneumonia, tuberculosis • Infections and other conditions affecting the ear and balance • Explain the formulation of topical and inhaled medications from the respiratory tract • Aerosols and nebulisers • Nose drops and sprays • Describe the formulation and proper use of topical medications for the ear • Describe the formulation and proper use of topical medications for the eye • Describe the common diagnostic tests used to evaluate auditory functions • List surgical procedures to improve vision and describe diagnostic and peri-operative use of ophthalmic drugs • Describe the common diagnostic tests used to evaluate visual function • Explain the principles, care and use of corrective lenses, glasses, hard and soft contact lenses
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3 hrs	3 hrs
	% contribution to Summative Assessment Mark	50	50
	Sub minimum	40%	40%

Primary Health Care Practice-Based Learning (BPharm II)

MPPH022	**Primary Health Care Practice-Based Learning**		**Credits:16**
Lectures per week	**Practicals per week**	**Tutorials per week**	
1	4	1	
Content:	The basic principles of research methodology and use of research instruments. The application of those principles and instruments in an indicator study of pharmaceutical and related services at Primary Health Care level. Health care service delivery, drug supply management and rational drug use at Primary Health Care level. Professional communication. The compilation and presentation of individual and group reports.		
Learning Outcomes:	Students should be able to describe and discuss the following • Health Systems in South Africa • Primary Health Care • Drug Supply Management and Rational Drug Use Students should be able to communicate effectively with health care providers Students should be able to write a report and present their project		
Assessment Criteria:	Students will be assessed on their ability to: • Describe the background on Health Services in South Africa • Describe the management of Primary Health Care Systems • Describe Good Pharmaceutical Practice and medicine availability at PHC level • Identify the various health care workers and their functions within the multi-disciplinary team • Indicate in a given situation, which vital signs should be assessed and how often this should be done • Interpret the values of temperature, pulse, blood pressure and respiration • identification, investigation and correction of a drug use problem through research • Describe indicator studies • Explain the Drug Supply Management Cycle at Primary Health Care level • Discuss Rational Drug Use (RDU) • Explain the importance and methods of effective professional communication • Describe the importance of writing concise, objective and accurate research reports • Describe and carry out the stages of writing a research report • Demonstrate the ability to present a research report orally		

Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Portfolio of evidence	Oral
	Duration		30 min
	% contribution to Summative Assessment Mark	60	40
	Sub minimum9	40%	40%

BPharm 3

Sterile Pharmaceutical Products (BPharm III)

MPMC031	**Sterile Pharmaceutical Products**		**Credits:16**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	An overview of the manufacturing of sterile pharmaceutical products. Principles and practice of sterilisation. The control of contamination. The manufacture of sterile pharmaceutical products. The principles and practice of quality assurance, including Good Manufacturing Practices and quality control, as applied to sterile pharmaceutical products.		
Learning Outcomes:	Students should be able to describe and discuss: • The sterility concept • Principles and practice of sterilization • Validation and monitoring of sterilization processes • Aseptic technique • Microbial contamination • Other forms of contamination • Preservative use of pharmaceuticals and related products • Disinfectants and antiseptics • Development of sterile products • Injections and infusions • Non-injectable sterile fluids • Ophthalmic preparations • Sterile pharmaceutical devices, products, instruments and equipment		
Assessment Criteria:	Students will be assessed on their ability to: • Define sterility as an important pharmaceutical concept. • Discuss the concept of sterility in practice and how this differs from theoretical sterility. • Explain the importance of maintaining sterility of selected pharmaceutical products and medical devices. • Explain the kinetics of microbial inactivation during the sterilisation process and the factors that may influence them • Critically discuss the different sterilisation methods that can be used during the manufacture of sterile pharmaceutical products in terms of: operation principles, mechanism of action, • Discuss the methods that can be used for routine monitoring of the quality of the sterilisation processes (quality assurance). • Describe the procedures/tests to prove that pharmaceutical products claimed to be sterile comply with the official standards and requirements for sterile products. • Describe the test for effectiveness of media in the presence and absence of the preparation being examined. • Interpret sterility testing results as specified by the BP (1988). • Discuss the conditions, principles and operating procedures for the aseptic processing of pharmaceutical products. • Describe the basic rules for effective aseptic processing.		

	• Explain the design, operation and monitoring of clean rooms for the production of pharmaceutical products. • Classify clean rooms according to the particulate quality of the environmental air. • Demonstrate the ability to apply aseptic technique in the preparation of selected products • Explain the occurrence of microbial contamination in pharmaceutical preparations (sterile and non-sterile dosage forms). • Summarise the factors that influence the growth of microorganisms (microbial spoilage) in pharmaceutical products and the potential consequences of this type of contamination. • Describe the contamination of pharmaceutical preparations (sterile and non-sterile dosage forms) with particles during the manufacturing process as well as during handling of the product. • Explain the test to detect pyrogenic contamination of pharmaceutical products. • Briefly describe how pyrogens can be removed from products. • Discuss the use of preservative systems/substances in pharmaceutical products and the factors that can influence the efficacy of the preservative system. • Define disinfection and all related terms. • Discuss the application and uses of the various types of disinfectants and antiseptics. • Describe the methods for testing the effectiveness of disinfectants and the factors that can play a role in their effectiveness. • Discuss the special excipients and additives needed in the formulation of sterile parenteral products. • Explain the freeze-drying process. • Give a brief overview of the requirements for the different categories of sterile products and packaging materials (containers) for parenteral products. • Describe the principles of osmosis, osmolality, isotonic solutions and iso-osmotic solutions. • Carry out the necessary calculations for the preparation of isotonic solutions for intravenous administration to patients as well as millimoles and milliequivalents. • Give a brief overview of the properties, requirements and uses of the different categories of injections. • Briefly discuss sterile fluids for uses other than injection of drugs. • State the reasons for the preparation of sterile ophthalmic preparations. • Give a brief overview of the special precautions and requirements applicable to ophthalmic preparations. • Identify sterile devices, products and equipment (other than dosage forms) and the methods used to sterilise them
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3 hrs	3 hrs
	% contribution to Summative Assessment Mark	60	40
	Sub minimum	40%	40%

Community Pharmacy Practice (BPharm III)

MPMA031	**Community Pharmacy Practice**		**Credits:24**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	This module includes administration, management skills and the philosophy of pharmaceutical care. Counselling, provision of advice and drug therapy management and their effects on the patient. Immune status, importance of prevention and nutrition and their effects on the family. Epidemiology, health education and drug information and their effects on the community. The following aspects of dispensing: legal, communication with the patient and other health care professionals, patient profiles, preparation of the prescription and record keeping. The role of the pharmacist as tutor.		

Learning Outcomes:	Students should be able to describe and discuss: • The role of the pharmacist in community health • Diagnostic and screening tests • Family planning • Baby care • Pharmacist initiated therapy (PIT) • Conditions that qualify for PIT • Overview of business management • Financial and marketing management • Stock management • Personnel management • Business Administration • Good Pharmacy Practice (GPP) • Dispensing Process • Code of Ethics • Legislation
Assessment Criteria:	Students will be assessed on their ability to: • Describe the role of the pharmacist in the promotion of health and prevention of disease in the community • Explain the health educational role of the pharmacist • List the diagnostic tests that fall within the scope of community pharmacy practice • Describe the role of the pharmacist in family planning • Identify aspects of baby care that fall within the scope of community pharmacy practice • Define the place and role of the pharmacist in baby care • Give an overview of the concept of pharmacist initiated therapy (PIT) • Discuss the consultation with patients as part of the PIT process • Describe the clinical assessment and referral of patients • Discus less serious, self-limiting conditions that can be treated by pharmacists by using non-prescription medication • List the main areas of business management relevant to community pharmacy • Describe the chief business management functions • Discuss the role of the pharmacist as a sales and marketing manager of a community pharmacy • Describe the role of national health schemes, medical aid schemes and medical insurance policies in South Africa • Describe the principles of a good stock control system • Discuss the stock management process (from ordering to dispensing and record keeping) • List the required personnel in a community pharmacy • Discuss the functions of the pharmacist as a personnel manager • Give a brief overview of relevant aspects in the SA laws applicable to the community pharmacist • Describe the requirements for good pharmacy practice and give possible ways to satisfy them • Outline the requirements for dispensing as required by law • Explain the disciplinary powers of the SAPC as described in Act 53 of 1974 • Discuss the code of ethics of the pharmacy profession • Identify the applicable legislation/acts for the practice of community pharmacy
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3 hrs	3 hrs
	% contribution to Summative Assessment Mark	60	40
	Sub minimum	40%	40%

Community Pharmacy Practice Based Learning (BPharm III)

MPML031	**Community Pharmacy Practice Based Learning**		**Credits:20**
Lectures per week	**Practicals per week**	**Tutorials per week**	
1	4	1	
Content:	Practical experience in aspects of the dispensing process, pharmacist initiated care, communication with the patient and other health care workers, specialist areas of community pharmacy, legal and ethical requirements, important aspects of management		
Learning Outcomes:	Students should be able to apply the following in a community pharmacy: • Diagnostic and screening tests • Family planning • Baby care • Pharmacist initiated therapy (PIT) • Conditions that qualify for PIT • Overview of business management • Financial and marketing management • Stock management • Personnel management • Business Administration • Good Pharmacy Practice (GPP) • Dispensing Process • Code of Ethics • Legislation		
Assessment Criteria:	Students will be assessed on their ability to: • Discuss the dispensing process with reference to each step in this process • Describe the requirements for good pharmacy practice and give possible ways to satisfy them • Outline the requirements for dispensing as required by law • Explain the disciplinary powers of the SAPC as described in Act 53 of 1974 • Give an overview of the concept of pharmacist initiated therapy (PIT) • Discuss the consultation with patients as part of the PIT process • Describe the clinical assessment and referral of patients • Discuss less serious, self-limiting conditions that can be treated by pharmacists by using non-prescription medicines • Describe the role of the pharmacist in the promotion of health and prevention of disease in the community • Explain the health educational role of the pharmacist • List the diagnostic tests that fall within the scope of community pharmacy practice • Describe the role of the pharmacist in family planning • Identify aspects of baby care that fall within the scope of community pharmacy practice • Define the place and role of the pharmacist in baby care • List relevant aspects of veterinary medicines in community pharmacy practice • Discuss the code of ethics of the pharmacy profession • Identify the applicable legislation/acts for the practice of community pharmacy • Highlight the important areas in this legislation that specifically focus on the practising of the profession in the community pharmacy • List the main areas of business management relevant to community pharmacy • Describe the chief business management functions • Discuss the role of the pharmacist as a sales and marketing manager of a community pharmacy • Describe the role of national health schemes, medical aid schemes and medical insurance policies in South Africa • Describe the principles of a good stock control system • Discuss the stock management process • List the required personnel in a community pharmacy • Discuss the functions of the pharmacist as a personnel manager • Give a brief overview of relevant aspects in the SA laws applicable to the community pharmacist		

Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Portfolio of evidence	Oral
	Duration	NA	30 min
	% contribution to Summative Assessment Mark	70	30
	Sub minimum	40%	40%

Endocrinology and reproductive pharmacy (BPharm III)

MPMB032	**Endocrinology and reproduction**		**Credits:24**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	Anatomy and physiology of the endocrine and reproductive system. A study of the pathophysiology of major disorders affecting the endocrine system, together with pharmacological and non-pharmacological treatment of such conditions. The basic female and male reproduction functions, diseases and conditions that are under hormonal control, including pregnancy, growth development, birth, genetics, lactation and ageing. Pharmacological and non-pharmacological management of the reproductive system diseases and conditions.		
Learning Outcomes:	Students should be able to describe and discuss the following in their role in pharmacotherapy: • Endocrine system • Hypothalamus • Pituitary gland • Adrenal gland • Reproductive system • Thyroid gland • Parathyroid gland • Pancreas		
Assessment Criteria:	Students will be assessed on their ability to: • Differentiate between the neurotransmitter and hormonal systems • Define endocrinology • Describe the glands and organs of the endocrine system • Identify the link mechanisms and the chemical signals among them • Define a hormone and differentiate among the three classes of hormones • Explain hormone regulation • Describe the anatomy of the hypothalamus • Identify and discuss the functions of the hormones secreted and released by the hypothalamus • Discuss the disorders of secretion and release of the hormones, the effects and the management of the disorders • List the uses of these hormones in other conditions • Describe the formulation and use of the appropriate dosage forms • Describe the role of the pharmacist in ensuring appropriate patient care • Describe the anatomy of the pituitary gland • Identify and discuss hormones secreted by the pituitary gland • Discuss disorders of secretion and release of these hormones and their management • Describe the anatomy of the adrenal gland • Discuss the biosynthesis, release, storage, regulation and actions of hormones released by the adrenal gland • List the disorders of the adrenal gland and discuss briefly their pharmacological and non-pharmacological management • Describe pharmacotherapy with mineralocorticoids and glucocorticoids in other disorders • Describe the formulation and use of the appropriate dosage forms • Describe the role of the pharmacists in ensuring appropriate patient care		

	• Describe the anatomy of the female and male reproductive systems • Discuss the endocrine regulation of the reproductive system • Describe sexual development and decline from embryo to old age • Describe ovulation, spermatogenesis, fertilization, pregnancy, foetal development, parturition, and lactation • Describe methods of fertility control and abortion • Discuss the common disorders and conditions of the male and female reproductive systems and their management • Discuss the use of sex hormones in the management of other conditions • Discuss the formulation and use of the appropriate dosage forms • Describe the anatomy and physiology of the thyroid gland • Outline the pathophysiology of disorders of the thyroid gland • Explain the non-pharmacological and pharmacological management of the disorders • List the uses of thyroid hormones in other conditions • Describe the formulation and use of the appropriate dosage forms • Describe the role of the pharmacist in ensuring appropriate patient care • Describe the anatomy and physiology of the parathyroid gland • Outline the pathophysiology of disorders of the parathyroid gland • Outline the pathophysiology of disorders of the parathyroid gland • Explain the non-pharmacological and pharmacological management of the disorders identified above • List the uses of parathyroid hormone in other conditions • Describe the formulation and use of the appropriate dosage forms • Describe the role of the pharmacist in ensuring appropriate patient care • Describe the anatomy of the pancreas • Identify and discuss secretions of the pancreas • Discuss disorders of the pancreas and its secretions • Describe the formulation and use of appropriate dosage forms • Describe the role of the pharmacist in ensuring appropriate patient care
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%

Summative Assessment:		**Paper 1**	**Paper 2**	**Paper 3**
	Theory / Practical	Theory	Oral	Practical
	Duration	3 hrs	30 min	2 hrs
	% contribution to Summative Assessment Mark	60	20	20
	Sub minimum	40%	40%	40%

Musculo-skeletal, skin conditions and pain management (BPharm III)

MPMC032	**Musculo-skeletal, skin conditions and pain management**		**Credits:20**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	An integrated study of the anatomy, physiology, pathophysiology and pharmacotherapy of the neuromuscular system, skeletal system and skin. The emphasis will be on the pharmacology of therapeutic agents used to treat disorders of these systems, including pain and inflammation. Non-pharmacological management of conditions, including wounds and dressings. Formulation and use of appropriate dosage forms for topical and systemic use.		
Learning Outcomes:	Students should be able to describe and discuss: • Anatomy and physiology of skeletal muscular and skin • Pathophysiology of conditions of the neuromuscular and skeletal systems and the skin • Pharmacological and non-pharmacological management of conditions of the neuromuscular and		

	skeletal systems and the skin • Transdermal topical formulation • Pain management • Drug absorption through the skin
Assessment Criteria:	Students will be assessed on their ability to: • Summarise the anatomy and physiology of the neuromuscular and skeletal systems and the skin • Describe the anatomy and physiology of the skin • Define and categorize pain • Describe the physiology of pain • Explain prevention of neuromuscular and skeletal system pathology. • Identify important pathological conditions that affect the neuromuscular and skeletal systems • Identify important pathological conditions that affect the neuromuscular and skeletal systems • Discuss common skin disorders and their management • Briefly outline / classify different skin conditions under the categories: • 1: Routine care and prevention, wounds and healing, ageing and degenerative conditions, pigmentation and its problems, systemic, hormonal and drug-induced problems • 2: Allergies and irritations • 3: Infections and infestations. • Pharmacological and non-pharmacological management of conditions • Outline the non-pharmacological treatment of pathological conditions of the neuromuscular and skeletal systems. • Outline the pharmacological treatment of pathological conditions of the neuromuscular and skeletal systems • Identify drugs that are used to produce skeletal muscular relaxation. • Discuss the formulation of vehicles for dermatological dosage forms • Discuss pain management • Discuss the chemistry of opioid analgesics • Discuss the misuse of analgesics and the management of opioid drug addiction • Review the legal aspects regarding the handling of S2, S3, S5 and S7 drugs • Discuss drug absorption through the skin
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%

Summative Assessment:		**Paper 1**	**Paper 2**	**Paper 3**
	Theory / Practical	Theory	Oral	Practical
	Duration	3 hrs	30 min	3 hrs
	% contribution to Summative Assessment Mark	60	20	20
	Sub minimum	40%	40%	40%

Modern Technologies in Health Care (BPharm III)

MPMT032	**Modern Technologies in Health Care**		**Credits:24**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	Principles of molecular biology, the principles, methods and products of biotechnology such as fermentation, recombinant DNA technology, gene therapy and immunological assays as applied to the diagnosis, prevention and treatment of inherited and acquired diseases. Theory and practice of new drug delivery systems. The immune system response and host defense mechanisms, with particular reference to diseases that can be prevented through immunisation. The principles and production of vaccines, antisera, immunoglobulins and the principles of hybridisation technology.		
Learning Outcomes:	Students should be able to describe and discuss: • Biotechnology • Immunisation – EPI Programme		

	• Basic concepts : Generic material • Protein chemistry • Physio-chemical stability of proteins in pharmaceuticals. Pharmacokinetics in proteins • Laboratory techniques applied to proteins • Isolation and purification • Fermentation • Recombinant DNA technology • Probe hybridization • Polymerase Chain Reaction technology • Gene therapy • Biotechnological techniques • Latest technology in Biological Products
Assessment Criteria:	Students will be assessed on their ability to: • Define biotechnology. Explain the relationship of biotechnology to related scientific disciplines • Briefly summarise the development and growth of biotechnology • Discuss the role of biotechnology in pharmacy • Define terms required to understand the topic Discuss the components of the nucleic acids and explain how these are linked to form the primary structure of the nucleic acids • Discuss the stability of the phosphodiesterase linkage in the nucleic acids • Describe the double helical secondary structure of DNA • Summarise the historical growth of knowledge concerning the chemical nature of DNA and RNA • Discuss plasmids • Discuss phages • Explain the terms: codon, exon, intron, gene, genome, genetic code, genotype, phenotype, chromatin, chromosome, • Describe and explain the process of DNA (or viral RNA) replication • Discuss the process of transcription • Discuss the process of translation (protein synthesis). • Briefly discuss the post translational processing of proteins following release from the ribosome. Briefly discuss the chemistry of proteins • Briefly discuss the chemistry of proteins • Discuss glycoproteins and the importance of their sugar moieties • Briefly discuss the physico-chemical stability of proteins and correct handling and storage of proteins. Briefly discuss the pharmacokinetic properties of proteins. Briefly discuss the general adverse effects and immunogenicity of proteins • Discuss protein isolation and purification • Demonstrate selected practical skills in the isolation and purification of proteins • Discuss protein analysis and concentration determination • Define fermentation • Explain the basics of submerged culture fermentation • Explain the basics of solid state fermentation • Discuss the basic requirements for and conditions influencing cell growth and reproduction during the fermentation process • Discuss rDNA technology • Discuss probe hybridization • Discuss Polymerase Chain Reaction technology • Discuss the basic principles of gene therapy • Briefly describe the different approaches to gene therapy • Describe the use of different vectors for gene therapy • Point out the possible role of gene therapy in the treatment of genetic diseases, cancer, AIDS and CF • Discuss the use of biotechnological tests for the prediction of ovulation dates • Discuss the use of biotechnology in testing glucose levels in body fluids • Discuss the role of the pharmacist in the prevention and treatment of relevant blood conditions
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3 hrs	3 hrs
	% contribution to Summative Assessment Mark	60	40
	Sub minimum	40%	40%

BPharm 4

Neurological and Psychiatric Pharmacy (BPharm IV)

MPMB041	**Neurological and Psychiatric Pharmacy**		**Credits:28**
Lectures per week	**Practicals per week**	**Tutorials per week**	
Content:	An integrated study of the basic anatomy and physiology of the brain and nervous system. The module includes the pathophysiology of the major disorders affecting the central nervous system with the emphasis being on the pharmacology of appropriate therapeutic agents. Causes, effects and management of substance abuse. Anaesthesia, anaesthetic agents and pain management.		
Learning Outcomes:	Students should be able to describe and discuss: • Anatomy and physiology of the central nervous system (CNS) • Causes and treatment of migraines • The role and function of neurotransmitters • The pathophysiology of • The pharmacotherapy of neurological and psychiatric disorders • Formulation of controlled release products • Drug and alcohol abuse • The use of anaesthetic agents		
Assessment Criteria:	Students will be assessed on their ability to: • Describe the development and anatomy of CNS • Describe the physiology of CNS • Give an overview of the following CNS conditions and their management • Developmental disorders • Mood disorders • Anxiety disorders • Psychotic disorders • Personality states • Seizure disorders • Headaches and migraine • Infections of the CNS • Neurodegenerative disorders • Discuss the different classes and dosage forms of the drugs used in psychopharmacology according to their mechanism of action • List the different types of dosage forms used in psychiatric pharmacy and discuss their formulation aspects • Describe the formulation and use of appropriate dosage forms, including sustained released (SR) and parenteral formulations • Define the term and concepts related to substance abuse • Identify (by common and generic name) and classify substances of abuse • Identify factors that can lead to substance abuse and dependence • Describe the effects the different substances have on the body • Describe other risks from drug abuse • Outline non-pharmacological treatment of substance abuse • Describe pharmacological treatment of substance abuse • Discuss the role of the pharmacist in substance abuse		

	• Define anaethesia and outline its goals • Describe general anaesthesia • Describe regional anaesthesia • Discuss the drugs used as anaesthetic adjuncts • Describe post-operative pain and its management • Discuss the formulation and dosage form design of anaesthetic drugs • Describe non-pharmacological and supportive adjuncts / apparatus for anaesthesia and pain relief		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3 hrs	3 hrs
	% contribution to Summative Assessment Mark	60	40
	Sub minimum	40%	40%

Hospital Pharmacy Practice (BPharm IV)

MPMA041	**Hospital Pharmacy Practice**		**Credits:20**
Lectures per week	**Practicals per week**	**Tutorials per week**	
Content:	Major managerial principles in hospital and institutional pharmacy e.g. logistics, financial management, human resources, quality assurance and Standard Operating Procedures, clinical governance. Pharmacoeconomics in drug selection. Rational drug use in a hospital including Pharmacy and Therapeutics Committees, drug use evaluation, antibiotic stewardship, infection control and pharmacovigilance. Disposal of pharmaceutical waste.		
Learning Outcomes:	To be able to use managerial tools to quality manage a pharmacy including human resources, financials , logistics, selection, procurement, storage, distribution disposal of pharmaceutical products through workshops and tutorials		
Assessment Criteria:	Students will be assessed on their ability to: • Identify differences between business plans for a community and hospital pharmacy • Explain the importance of good management and logistics in hospital pharmacy • Discuss the elements of good management and logistics in hospital pharmacy • Describe briefly the critical qualities of an effective manager • Describe modern management methods • Explain the importance of QA systems in hospital pharmacy • Define an “accrediting body” and list some accrediting bodies (ISO, SABS, etc) • Describe the structure of a quality system • Discuss the updating of a quality manual • Describe auditing of healthcare facilities • Discuss financial management systems in public and private hospitals • Describe methods for quantifying drug requirements and setting drug budgets • Define rational drug use within the hospital environment • Describe how PTC, DUEs, antibiotic policies, infection control and pharmacovigilance are used to improve DU in the hospital • Explain the importance of the proper handling of pharmaceutical waste • Discuss the role of the pharmacist in pharmaceutical waste disposal • Describe the elements of an effective human resource strategy • Describe the relevant legislation which affects HR employment policies • Describe the steps in recruitment of new staff • List the components of the performance management cycle • Describe basic disciplinary procedures • Describe the importance of training in providing and improving job performance • Describe the role of pharmacoeconomic analysis in drug selection		

	• Perform a pharmacoeconomics analysis			
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%			
Summative Assessment:	**Summative Assessment Paper:**		**Paper 1**	**Paper 2**
		Theory / Practical	Theory	Practical
		Duration	3 hrs	3 hrs
		% contribution to Summative Assessment Mark	70	30
		Sub minimum	40%	40%

Specialised Pharmacy (BPharm IV)			
MPMC041	**Specialized Pharmacy**		**Credits:8**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	1	4	
Content:	Oncology and treatment strategies for neoplasms. Pharmacology of chemotherapeutic agents and preparation of cytotoxic drugs. Surgical devices, ostomy products and stoma care. Clinical nutrition, including parenteral and enteral feeding. Contrast media, radioisotopes and radiopharmaceuticals. Drug and toxicology information services. The role of the consultant pharmacist.		
Learning Outcomes:	Students should be able to describe and discuss: • Treatment options and strategies in oncology • The use of contrast media and radiopharmaceuticals • The use of small volume parenterals • The use of large volume parenterals • Drug and Toxicology Information Services (DTIS) • Surgical devices and ostomy products • Antiretroviral therapy		
Assessment Criteria:	Students will be assessed on their ability to: • Review the normal cell cycle of growth and Department • List the causes of abnormal cell Department and the characteristics of neoplastic cells • Classify the common types of neoplasms • Identify the most common types of cancer and list appropriate treatment modalities • Identify the classes of chemotherapeutic agents, the major drugs in each class, and the mechanisms of action use, safety aspects and limitation to use • Discuss the role of the pharmacist in the prevention and management of oncologic diseases • Discuss supportive care of oncology patients • Discuss the handling of cytotoxic drugs • Discuss radio opaque and radioactive materials • List the types of radionuclides • Briefly describe the decay of radionuclides • List the main components of radionuclide generators • Describe briefly the principles of the design of radio-pharmaceuticals • Describe briefly the quality control of radiopharmaceuticals • List the diagnostic uses of radiopharmaceuticals • List the therapeutic uses of radiopharmacuticals • Describe the proper disposal of radiopharmaceutical waste • Describe the competition, indications for and use of common large and small volume parenterals • Describe the methods of preparation and administration of small and large volume parenterals • Drug and Toxicology Information Services (DTIS) • Describe the requirements for the process of Drug and Toxicology Information Service (DTIS) provision • Identify the role of the pharmacist in the provision of this service • Discuss the principles of management of toxicology using examples to illustrate		

	• Identify common surgical devices and ostomy products and describe their use		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3 hrs	2 hrs
	% contribution to Summative Assessment Mark	60	40
	Sub minimum	40%	40%

Hospital Pharmacy Practice-Based Learning (BPharm IV)

MPMC042	**Hospital Pharmacy Practice-Based Learning**		**Credits:20**
Lectures per week	**Practicals per week**	**Tutorials per week**	
Content:	Philosophy of pharmaceutical care, health systems, managing drug supply, administration and management. Treatment plans.		
Learning Outcomes:	Students should be able to discuss the following: • Pharmaceuticals management cycle • Code-of-conduct • Legislation in hospital pharmacy • Organisation structure within hospital pharmacy management • ICD10 codes • Management systems • Quality assurance in hospital pharmacy and institutional pharmacy • Rational Drug Use • Financial Management • Human Resource Management • Ward Pharmacy Services • Drug and Toxicology Information Services • Small and Large Volume Parenterals • Nutritional Support • Surgical Devices:		
Assessment Criteria:	Students will be assessed on their ability to: • Discuss the organizational structure within hospital pharmacy management • Discuss the code of professional conduct, to guide ethical behaviour in the hospital • Investigate the principles and practice of drug supply management in hospital pharmacy • Explain the importance of good management and logistics in hospital pharmacy • Discuss the elements of good management and the logistics in hospital pharmacy • Describe briefly the function of good management information system in effective hospital pharmacy management • Describe the use of the computer as a management tool in hospital pharmacy • Explain the importance of QA systems in hospital management • Describe the structure of the quality system in the pharmacy • Describe specific strategies used to improved drug use in the hospital pharmacy • Discuss financial management systems in public and private hospital pharmacies • Describe methods for quantifying drug requirements and setting drug budgets • Describe the elements of an effective human resource strategy • Describe the relevant legislation which affects HR employment policies • Describe basic disciplinary procedures • Describe the importance of training in providing and improving job performance • Identify the components of the drug supply management cycle • Discuss the dispensing process with reference to each step in this process		

	• Outline the requirements for dispensing as required by law • Describe the requirements for good pharmacy practice and describe possible ways to satisfy them • Explain the disciplinary powers of SAPC as described in Act 53 in 1974 • Describe ward pharmacy services in the hospital • Identify the role of the pharmacist in the provision of this service • Identify antidotes to common poisons • Describe the methods of preparation and administration of small and large volume parenterals • Describe the procedure and products for nutritional support in the hospital • Identify common surgical devices and ostomy products and describe their use • List the functional units responsible for manufacturing and compounding and their activities • Outline the purpose for and the use of ICD10 codes within the hospital pharmacy setting • Compile a portfolio on the learning experience at the hospital • Do an oral presentation of the portfolio using a slide show
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Portfolio of evidence	Oral
	Duration		30 min
	% contribution to Summative Assessment Mark	60	40
	Sub minimum	40%	40%

First Aid (BPharm IV)

MPMA042	**First Aid**		**Credits:4**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	4	1	
Content:	General principles of first aid, basic life support and cardiopulmonary resuscitation (CPR), as well as the first aid management of asphyxia and respiratory arrest, bleeding and wound care, burns, shock, poisonings and musculoskeletal injuries.		
Learning Outcomes:	Students should be able to assess and manage emergencies at the scene of an accident or injury in order to preserve life and prevent complications		
Assessment Criteria:	Students will be assessed on their ability to: • Outline the objectives and legal implications of first aid • Carry out a quick assessment of the emergency situation • Determine priorities of treatment in an emergency situation • Perform primary and secondary assessment on the casualties. • Carry out ongoing casualty assessment at the scene of accident. • Maintain a patent airway and adequate ventilation. • Perform artificial ventilation and cardiopulmonary resuscitation safely and effectively. • Control bleeding and prevent infection of the wounds. • Bandage wounds to prevent further complications. • Prevent and treat for shock. • Immobilize fractures including those of the cervical spine and back. • Immobilize dislocations, sprains and strains. • Carry out health education on prevention of poisoning. • Assess and place an unconscious casualty in a recovery position. • Assess and treat various types and levels of burns. • Document all observations and interventions. • Dispose of the casualty to the relevant institution for further care and observation.		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	2 hrs	2 hrs
	% contribution to Summative Assessment Mark	50	50
	Sub minimum	40%	40%

Hospital-based Pharmaceutical Care (BPharm IV)

MPMB042	**Hospital-based Pharmaceutical Care**		**Credits:28**
Lectures per week	**Practicals per week**	**Tutorials per week**	
1	4	1	
Content:	The principles and practice of pharmaceutical care in the hospital setting. The module covers the compilation of a patient database, identification of his/her drug-related needs, construction of a drug-related problem list and the development, implementation and evaluation of a pharmaceutical care plan.		
Learning Outcomes:	Students should be able to compile of a patient database, identification of his/her drug-related needs, construction of a drug-related problem list and development, implement and evaluate a pharmaceutical care plan.		
Assessment Criteria:	Students will be assessed on their ability to: • Identify structural elements and activities performed in the hospital environment • Define and describe the terms pharmaceutical practice, pharmaceutical services and pharmaceutical care • Discuss drug therapy problems • Describe the pharmaceutical care process • Identify the main steps, elements and monitoring which comprise pharmaceutical care • Discuss the scope of practice of the pharmacists in pharmaceutical care • Provide "Pharmaceutical Care" to all patients within a unit/ward at an approved Hospital by attending ward rounds and participating in related patient care activities		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		

Summative Assessment:		**Paper 1**	**Paper 2**	**Paper 3**
	Theory / Practical	Theory	Oral	Practical
	Duration	3 hrs	30 min	30 min
	% contribution to Summative Assessment Mark	50	30	20
	Sub minimum	40%	40%	40%

Advanced Research Methodology and Project (BPharm IV)

MPMR040	**Advanced Research Methodology and Project**		**Credits:20**
Lectures per week	**Practicals per week**	**Tutorials per week**	
1	4	1	
Content:	The theory and practice of research including a structured project in an area of pharmacy. The module is presented in three parts. Part 1: Research methodology theory and protocol development Part 2: Experimental phase and data collection. Part 3: Completion and submission of research report.		
Learning Outcomes:	Students should be able to describe and discuss • The research process • Different research method		

	• Different data collection, analysis and presentation techniques • Validity and reliability of research • Different reference systems Students should be able to write a research proposal, collect, collate and analyze the data and present and discuss the findings
Assessment Criteria:	Students will be assessed on their ability to: • Define research • Describe the stages in the research process • Compare the categories / types of research • Briefly describe the different approaches to research • Critically compare the different types of research methods • Discuss possible data collection techniques used in the different research methods • Discuss the analysis of the results from qualitative and quantitative research • Discuss the basic statistical methods used in analysis of quantitative data • Describe different ways to display data in the research report • Explain the importance of validity and reliability of data from different research method • State the purpose of a research proposal • Explain what information is needed as part of the content of a research proposal • Discuss the nature and scope of ethical issues in research • Demonstrate the ability to use citation systems for entries in the bibliography and references in the text • Explain the factors to be taken into consideration when writing a research report • Describe the components of a generic research report • Write a research proposal report on your research project • To conduct a research project
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Oral	Research report
	Duration	30 min	NA
	% contribution to Summative Assessment Mark	30	70
	Sub minimum	40%	40%

Hospital Pharmacy Practice-Based Learning (BPharm IV)

MPMC042	**Hospital Pharmacy Practice-Based Learning**		**Credits:20**
Lectures per week	**Practicals per week**	**Tutorials per week**	
Content:	Philosophy of pharmaceutical care, health systems, managing drug supply, administration and management. Treatment plans.		
Learning Outcomes:	Students should be able to discuss the following: • Pharmaceuticals management cycle • Code-of-conduct • Legislation in hospital pharmacy • Organisation structure within hospital pharmacy management • ICD10 codes • Management systems • Quality assurance in hospital pharmacy and institutional pharmacy • Rational Drug Use • Financial Management • Human Resource Management • Ward Pharmacy Services		

	• Drug and Toxicology Information Services • Small and Large Volume Parenterals • Nutritional Support • Surgical Devices:
Assessment Criteria:	Students will be assessed on their ability to: • Discuss the organizational structure within hospital pharmacy management • Discuss the code of professional conduct, to guide ethical behaviour in the hospital • Investigate the principles and practice of drug supply management in hospital pharmacy • Explain the importance of good management and logistics in hospital pharmacy • Discuss the elements of good management and the logistics in hospital pharmacy • Describe briefly the function of good management information system in effective hospital pharmacy management • Describe the use of the computer as a management tool in hospital pharmacy • Explain the importance of QA systems in hospital management • Describe the structure of the quality system in the pharmacy • Describe specific strategies used to improved drug use in the hospital pharmacy • Discuss financial management systems in public and private hospital pharmacies • Describe methods for quantifying drug requirements and setting drug budgets • Describe the elements of an effective human resource strategy • Describe the relevant legislation which affects HR employment policies • Describe basic disciplinary procedures • Describe the importance of training in providing and improving job performance • Identify the components of the drug supply management cycle • Discuss the dispensing process with reference to each step in this process • Outline the requirements for dispensing as required by law • Describe the requirements for good pharmacy practice and describe possible ways to satisfy them • Explain the disciplinary powers of SAPC as described in Act 53 in 1974 • Describe ward pharmacy services in the hospital • Identify the role of the pharmacist in the provision of this service • Identify antidotes to common poisons • Describe the methods of preparation and administration of small and large volume parenterals • Describe the procedure and products for nutritional support in the hospital • Identify common surgical devices and ostomy products and describe their use • List the functional units responsible for manufacturing and compounding and their activities • Outline the purpose for and the use of ICD10 codes within the hospital pharmacy setting • Compile a portfolio on the learning experience at the hospital • Do an oral presentation of the portfolio using a slide show
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%

Summative Assessment:

	Paper 1	**Paper 2**
Theory / Practical	Portfolio of evidence	Oral
Duration		30 min
% contribution to Summative Assessment Mark	60	40
Sub minimum	40%	40%

POSTGRADUATE DIPLOMA IN HOSPITAL PHARMACY MANAGEMENT PROGRAMME

Financial Management			
PHFM601	**Financial Management**		**Credits:24**
Lectures per week	**Practicals per week**	**Tutorials per week**	
3	1	1	
Content:	How the government's' financial system works. Overview of accounting and financial accounting. Recording and reporting financial transactions. Legal, policy framework of financial management within public institutions. Tender Board Act. Statutory requirements for financial reporting. Financial concerns and constraints at each level. Financial controls: Preparation of financial statements, Analysis of financial statements, Auditing, Budgeting, Costing-methods and determination. Creating financial awareness in own pharmacy – to cover costs per unit rather than overview of pharmacy's expenses. Application of information systems in financial management. Cost control		
Learning Outcomes:	To analyse the financial system in the public sector To utilise the different financial analytical systems applicable to pharmacy management		
Assessment Criteria:	Students can utilise the financial system in the public sector and the different financial analytical systems applicable to pharmacy, for the purpose of cost-effective hospital pharmacy management		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:	Theory / Practical	Theory	
	Duration	3	
	% contribution to Summative Assessment Mark	100	
	Sub minimum	40	

Human Resource Management			
PHHM601	**Human Resource Management**		**Credits:24**
Lectures per week	**Practicals per week**	**Tutorials per week**	
3	2	1	
Content:	Human resource planning: Human resource system/role of personnel in the organisation, personnel policy and strategy. Personnel management and organisation: Employee resourcing. Training and development. Performance management. Industrial Relations. Remuneration.		
Learning Outcomes:	To design a well-planned human resource strategy applicable to hospital pharmacy management To develop skills for effective personnel management in a hospital pharmacy		
Assessment Criteria:	Students can develop a well-planned human resource strategy for the hospital pharmacy and manage personnel effectively through sound human resource practices.		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3	1
	% contribution to Summative Assessment Mark	80	20
	Sub minimum	40	40

Medicines Management			
PHMM601	**Medicines Management**		**Credits:24**
Lectures per week	**Practicals per week**	**Tutorials per week**	
4	0	2	
Content:	Pharmacy and Therapeutics Committee (PTC): Terms of reference, Role of the PTC in research, Objectives, Functions, Membership, Helpful processes, Involving the community, Feedback and follow up, Stay abreast with drug-related affairs (paper, events etc.), Drug policies and drug politics, Focus on drug and therapeutics-related aspects Rational and irrational drug use: Promote rational drug use, Monitoring drug use patterns, identify cost drives: ABC analysis, parent analysis, Trends, EDL compliance, DSM, Dispensing. Pharmacoeconomics: Cost justification of pharmaceutical purchases. Clinical and cost issues, Direct, indirect and hidden costs. Reports. Production control Application of HIS		
Learning Outcomes:	To investigate the medicines management cycle in terms of effective, safe, suitable and available medicines To analise the different policies pertaining to medicines management To implement and maintain a hospital Pharmacy and Therapeutics Committee		
Assessment Criteria:	Students can manage the supply and use of medicines so that medicines are effective, safe, suitable and available Students can evaluate and utilise the different policies pertaining to medicines management Students can implement and maintain a Pharmacy and Therapeutics Committee in the hospital		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:	Theory / Practical	Theory	
	Duration	3	
	% contribution to Summative Assessment Mark	100	
	Sub minimum	40	

Research Project			
PHRE601	**Research Project**		**Credits:24**
Lectures per week	**Practicals per week**	**Tutorials per week**	
2	0	0	
Content:	Introduction and practical aspects of research process		
Learning Outcomes:	To demonstrate an understanding of the research process To develop a research protocol To analise and interpret data To present and discuss data in the form of a research report		
Assessment Criteria:	Students can write a research protocol for submission to an ethics committee Students can analise, interpret and present data in a written research report		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:	Theory / Practical	Theory	
	Duration	3	
	% contribution to Summative Assessment Mark	100	
	Sub minimum	40	

The Management Process			
PHMP601	**The Management Process**		**Credits:24**
Lectures per week	**Practicals per week**	**Tutorials per week**	
3	2		
Content:	Management in a hospital pharmacy: Why study management?, Management in different settings, Challenges in managing a hospital pharmacy, Managerial and organisational performance. Types of managers and management styles: Management skills. Management process. Planning, Organizing, Leading, Control.		
Learning Outcomes:	To recognise your own management style and bring in line with the management styles of others To utilise the management processes (planning, organizing, leading, control) applicable to hospital pharmacy		
Assessment Criteria:	Students can perform sound management processes, styles and skills in managing a hospital pharmacy		
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%		
Summative Assessment:		**Paper 1**	
	Theory / Practical	Theory	
	Duration	3	
	% contribution to Summative Assessment Mark	100	
	Sub minimum	40	

POSTGRADUATE DIPLOMA IN PHARMACEUTICAL REGULATORY AFFAIRS

Administrative Information		
MRAI081	**Administrative Information**	**Credits: 20**
Lectures per week:	**Practicals per week:**	**Tutorials per week**
Purpose of the module	• This core module is designed to consolidate and expand knowledge gained throughout undergraduate learning. The module will address the administrative and regional requirements for the application for, and maintenance of, the registration of a medicine and will prepare the student's scientific reasoning and ability or skill to determine the correct, true and relevant information required, and in addition, will ultimately fulfil the criteria of the Exit Level Outcomes (ELO).	
Content (list topics):	• Legislative administrative details of applicant, facilities and product, submission of product information, registration procedures of relevant international authorities, submission of variations, literature-based submissions, local legislation, and national health and medicine policies.	
Exit Level Outcomes addressed by this module	• ELO 1: The PGDip (Pharmaceutical Regulatory Affairs) student will interrogate practices and demonstrate the ability to assess processes of the general, regional, and labelling requirements for a health products registration application in compliance with the Medicines and Related Substance Act, 1965 (Act 101 of 1965), the Pharmacy Act , 1974 (Act 53 of 1974), and the South African Health Products Regulatory Affairs (SAHPRA) Guidelines and in line with the National Health and the National Drug Policies. • ELO 2: The PGDip (Pharmaceutical Regulatory Affairs) student will demonstrate knowledge of and engagement with enabling and other relevant legislation of the registration and control of health products (medicines, medical devices and IVDs). • ELO 3: The PGDip (Pharmaceutical Regulatory Affairs) student will demonstrate the ability to use a range of specialised skills to analyse, evaluate and justify good manufacturing practice (GMP) aspects to obtain positive GMP compliance status for the registration and control of health products. • ELO4. The PGDip (Pharmaceutical Regulatory Affairs) student will access, process and manage information in order to critically review information in compiling of the licence and permit applications in compliance with the Medicines & Related Substances Act, 1965 (Act 101 of 1965), Pharmacy Act, 1974 (Act 53 of 1974), and the SAHPRA Guidelines, in line with the National Health and National Drug Policies required for the Health Products Industry.	
Learningoutcomes	**Assessment Criteria**	
1. The student must be able to describe the need for medicine regulation	• Recognise the potential pharmaceutical risks involved up to and after the administration of a medicine • List and apply objective and basic principles to demonstrate quality, safety, and efficacy (QSE) • Describe the Authority's liaison with international authorities/bodies	
2. The student must compile and submit an application for the registration of a medicine to SAHPRA	• Apply knowledge specific to South African requirements to compile Module 1 of the application for the registration of a medicine in South Africa • Compile the application form, Module 1.2.1, for the registration of a medicine • Conclude which information is correct, true, and relevant to the compilation of the application for the registration of a medicine • Compile and submit the application for the registration of a medicine following the appropriate procedures prescribed by SAPHRA • Convert the data of historical registration applications to the current application form (ZA eCTD) for the registration of a medicine in South Africa	

3. The student must compile and submit applications for safety and other updates to the professional information and patient information leaflet of a medicine	• Apply knowledge specific to South African requirements to compile Module 1.3 and 1.5.1 of the application for the registration of a medicine in South Africa • Conclude which information is correct true and relevant to the compilation of the application for the update of safety and other information to the professional information and patient information leaflet • Compile and submit the application for the amendment/change/variation to the product information (professional information or patient information leaflet) of a medicine following the appropriate procedures prescribed by SAPHRA • Convert the data of historical registration application product information to the current application form (ZA eCTD) for the registration of a medicine in South Africa
4. The student must compile and submit applications for changes to manufacturing, production, quality aspects of a medicine	• Apply knowledge specific to South African requirements to compile Module 1.5.2 of the application for the registration of a medicine in South Africa • Compile and submit the application for the changes to the manufacturing, production or quality aspects of a medicine following the appropriate procedures prescribed by SAPHRA • Demonstrate the equivalent performance of the changed product in comparison to that approved prior to the change. • Conclude which information is correct true and relevant to the compilation of the application for the changes to the pharmaceutical quality related aspects of an approved medicine or an application being assessed by the authority • Convert the data of historical registration applications' quality information to the current application form (ZA eCTD) for the registration of a medicine in South Africa
5. The student must compile and submit applications for changes to the applicant, applicant name, or facilities of a medicine	• Apply knowledge specific to South African requirements to compile Module 1.7, 1.2.1, and 1.11 of the application for the registration of a medicine in South Africa • Conclude which information is correct true and relevant to the compilation of the application for the changes to the applicant or facilities, or name changes of the applicant or facilities, of an approved medicine or one being assessed by the authority • Compile and submit the application for applicant or facility, or name changes of applicant or facility following the appropriate procedures prescribed by SAPHRA • Convert the data of historical registration applications' applicant or facility changes to the current application form (ZA eCTD) for the registration of a medicine in South Africa
6. The student must compile and submit applications for changes to the product name of a medicine	• Apply knowledge specific to South African requirements to compile Module 1.2.1 of the application for the registration of a medicine in South Africa • Conclude which information is correct true and relevant to the compilation of the application for a change to the product name of a medicine • Compile and submit the application for the change in name of a medicine following the appropriate procedures prescribed by SAPHRA
7. The student must compile and submit applications for changes to the scheduling status of a medicine	• Apply knowledge specific to South African requirements to compile the application for a change in the scheduling status of a medicine in South Africa • Conclude which information is correct true and relevant to the compilation of the application for the registration of a medicine • Compile and submit the application for the change in scheduling status of a medicine following the appropriate procedures prescribed by SAPHRA
Pre-requisite modules for this module:	None, entry Module
Co-requisites modules for module:	None
Assessment strategy	Formative Assessment Methods: Assignment Summative Assessment Methods: Exam or case studies

Enabling Legislation and Licensing		
MREL081	**Enabling Legislation and Licensing**	**Credits: 20**
Lectures per week:	**Practical per week**	**Tutorials per week**
Purpose of the module	• This core module is designed to consolidate and expand knowledge gained throughout undergraduate learning. The module will revisit the enabling legislation and application thereof to demonstrate quality, safety, and efficacy of medicines, and to prepare the student's integration of knowledge for successful reasoning, evaluation and selection of the correct, true, and relevant information required for the application for and maintenance of the registration of a medicine and will ultimately fulfil the criteria of the Exit Level Outcomes (ELO).	
Content (list topics):	• Enabling local legislation: Medicines and Related Substances Act, 1965 (Act 101 of 1965), Pharmacy Act, 1974 (Act 53 of 1974,) National Health Policy, National Drug Policy, Hazardous Substances Act, 1973 (Act 15 of 1973), Fertilizers, Farm feeds, Seeds and Remedies Act, 1947 (Act 36 of 1947) for Veterinary medicines	
Exit Level Outcomes addressed by this module	• ELO 1: Compilation of the general, regional, and labelling for a medicine registration application in compliance with the Medicines Act, the Pharmacy Act, and the SAHPRA Guidelines and in line with the National Health and the National Drug Policies. • ELO 2: Compliance with enabling and other relevant legislation for the registration and control of health products (medicines, medical devices and IVD'). • ELO 3: Analysis, evaluation, and justification of good manufacturing practice (GMP) aspects to obtain positive GMP compliance status for the registration and control of medicines. • ELO 4: Compilation of the licence and permit applications in compliance with the Medicines Act, Pharmacy Act, and the SAHPRA Guidelines, in line with the National Health and National Drug Policies required for the Health Products Industry.	
Prescribed/recommended texts	• Medicines and Related Substances Act, 1965 (Act 101 of 1965), Pharmacy Act, 1974 (Act 53 of 1974), National Health Policy, National Drug Policy, Hazardous Substances Act, 1973 (Act 15 of 1973), Fertilizers, Farm feeds, Seeds and Remedies Act, 1947 (Act 36 of 1947) for Veterinary medicines	
Learning outcomes	**Assessment Criteria**	
1. Student must be able to apply the legislation to compile medicine registration applications in the specific disciplines.	• Apply legislation related to Medicine Registration Applications: - Orthodox including Biologicals - Complementary - Veterinary • Apply legislation related to Medical Devices and IVDs	
2. Student must be able to apply for required professional registrations, licences and permits to operate in the relevant sections of the Pharmaceutical Industry.	• Demonstrate knowledge about the obtaining of licenses, and registrations: - Pharmacy - Applicant - Manufacturer, Export, Import - Wholesaling, Distribution - Company - Permits, S21 exemptions, Narcotics • Describe the procedure to pay the applicable application and/or registration fees: - Pharmacy - Applicant - Manufacturer, Export, Import - Wholesaling, Distribution - Company - Permits, S21 exemptions, Narcotics	
3. Student must be able to evaluate advertising material of pharmaceutical products	• Advertising - Claims - Statements • Pricing	

4. Student must be able to submit applications in accordance with the relevant legislation	• Clinical trials • Obtain approval - Register the trial on the database • Single exit pricing • Obtain and maintain approval
5. Student must be able to successfully apply for the licences required for orthodox medicines in the Pharmaceutical Industry	• Apply for the relevant licences of the pharmaceutical industry in accordance with legislation - Initiate and defend GMP compliance inspection outcomes (SAHPRA) - Initiate and defend GPP compliance inspection outcomes (SAPC) - List and obtain permits for all the relevant activities within the pharmaceutical industry • Complete the required annual returns for Narcotics in accordance with the convention on Psychotropic substances of 1971 and Single Convention on Narcotic Drugs, 1961
6. Successfully apply for the licenses required for complementary medicine in the Complementary medicine industry	• Submit the licence applications for complementary medicines in compliance with the relevant legislation • Initiate and defend GMP inspection outcomes • Initiate and defend GPP inspection outcomes • The student must be able to list and obtain permits or exemption applications for all the relevant activities within the complementary medicines industry
7. Successfully apply for the licences required for medical devices in the Medical Device Industry	• Submit the licence applications to import and market medical devices and IVDs in compliance with the relevant legislation
Pre-requisite modules for this module:	MRAI011 Administrative Information
Co-requisite modules for module:	N/A
Assessment strategy	Formative Assessment Methods: Assignment Summative Assessment Methods: Exam or case studies

Good Manufacturing Practice (GMP)		
MGMP081	**Good Manufacturing Practice (GMP)**	**Credits: 20**
Lectures per week:	**Practicals per week**	**Tutorials per week**
Purpose of the module	This core module is designed to consolidate and expand knowledge gained throughout undergraduate learning. The module will revisit and expand the application of pharmaceutical sciences and pharmacy to the study of the development, production and distribution of medicines, to support the demonstration of quality, safety and efficacy of medicines required for the application for and maintenance of the registration of a medicine and will ultimately fulfil the criteria of the Exit Level Outcomes (ELO).	
Content (list topics):	Good Manufacturing Practice (GMP), Good Wholesale Practice (GWP), Good Distribution Practice (GDP), quality standards, pharmaceutical production.	

Exit Level Outcomes addressed by this module	• ELO 3: The PG Dip (Pharmaceutical Regulatory Affairs) student will demonstrate the ability to use a range of specialised skills to analyse, evaluate and justify good manufacturing practice (GMP) aspects to obtain positive GMP compliance status for the registration and control of health products. • ELO 4: The PGDip (Pharmaceutical Regulatory Affairs) student will access, process and manage information in order to critically review information in compiling of the licence and permit applications in compliance with the Medicines & Related Substances Act, 1965 (Act 101 of 1965), Pharmacy Act, 1974 (Act 53 of 1974), and the SAHPRA Guidelines, in line with the National Health and National Drug Policies required for the Health Products Industry. • ELO 5: The PGDip (Pharmaceutical Regulatory Affairs) student will demonstrate an understanding and engagement with appropriate risk-based science to construct the procedures, processes and/or techniques in pharmaceutical regulatory affairs. • ELO 6: The PGDip (Pharmaceutical Affairs) student will critically engage with researched information in order to address scientific and/or technical challenges within pharmaceutical regulatory affairs.
Prescribed/recommended texts	ICH website (https://www.ich.org) e.g. Q 7-14 etc., PICS website (https://picscheme.org/en/picscheme), WHO website (https://www.who.int/) , EMA website (https://www.ema.europa.eu/en), FDA website (https://www.fda.gov/), SAHPRA website (https://www.sahpra.org.za)
Learning outcomes	**Assessment Criteria**
1. Student must be able to appraise the need for Good Manufacturing Practice	• Develop and maintain the Quality Management System (QMS) required for medicines • Assess compliance with Good Documentation Practice (GDocP) for the relevant levels of risk • Appraise Quality Risk Management (QRM)
2 Student must be able to assess the application of GMP for orthodox and complementary medicines	• Discuss the quality management philosophy and essential elements of GMP as stipulated in the SA Guide to GMP Chapters and its annexes for medicinal dosage forms • Initiate GMP inspections and follow up inspection outcomes using QRM principles • Initiate GPP inspections and follow up inspection outcomes using QRM principles
3 Student must be able to describe the key/critical personnel responsibilities	• Demonstrate knowledge about the responsibilities of key personnel including the Responsible Pharmacist, Quality Assurance and Senior Management. • Assess the scientific relevance and applicability of other country specific related responsibilities and / or country specific interpretation/implementation of responsibilities
4 Student must be able to determine the responsibilities of third-party stakeholders	• Demonstrate knowledge about the responsibilities of and requirements for vendors and suppliers • Assess the scientific relevance and applicability of other country specific GMP related requirements and / or country specific interpretation/implementation of GMP requirements
5 Student must be able to appraise and identify GMP principles and requirements relating to medicine registration applications	• Demonstrate knowledge about common and product specific requirements and common, non-product specific requirements • Demonstrate knowledge about scientific justification of requirements of PICs, WHO, and other authorities
Pre-requisite modules for this module:	MREL011 Enabling Legislation and Licensing

Co-requisite modules for module:	N/A
Assessment strategy	Formative Assessment Methods: Assignment Summative Assessment Methods: Exam or case studies

Other Good Practices		
MRGP082	**Other Good Practices**	**Credits: 20**
Lectures per week:	**Practicals per week:**	**Tutorials per week:**
Purpose of the module	• This core module is designed to consolidate and expand knowledge gained throughout undergraduate learning. The module will revisit and expand the application of the relevant principles and ethics, [good pharmacy practice (GPP), good clinical practice (GCP), good regulatory practice (GRP) and good laboratory practice (GLP)], required to support the student in integrating the knowledge for the successful reasoning, evaluation and the ability/skill to determine the correct, true, and relevant information for the application for and maintenance of registration of a medicine, and will ultimately fulfil the criteria of the Exit Level Outcomes (ELO).	
Content (list topics):	• Good Pharmacy Practice (GPP), Good Clinical Practice (GCP), Good Regulatory Practice (GRP), regulatory affairs, regulatory frameworks and instruments, Good Laboratory Practice (GLP), principles and practices of analytical techniques.	
Exit Level Outcomes addressed by this module	• ELO 3: The PGDip (Pharmaceutical Regulatory Affairs) student will demonstrate the ability to use a range of specialised skills to analyse, evaluate and justify good manufacturing practice (GMP) aspects to obtain positive GMP compliance status for the registration and control of health products. • ELO 4: The PGDip (Pharmaceutical Regulatory Affairs) student will access, process and manage information in order to critically review information in compiling of the licence and permit applications in compliance with the Medicines & Related Substances Act, 1965 (Act 101 of 1965), Pharmacy Act, 1974 (Act 53 of 1974), and the SAHPRA Guidelines, in line with the National Health and National Drug Policies required for the Health Products Industry. • ELO 5: The PGDip (Pharmaceutical Regulatory Affairs) student will demonstrate an understanding and engagement with appropriate risk-based science to construct the procedures, processes and/or techniques in pharmaceutical regulatory affairs. • ELO 6: The PGDip (Pharmaceutical Affairs) student will critically engage with researched information in order to address scientific and/or technical challenges within pharmaceutical regulatory affairs.	
Prescribed/recommended texts	• SAPC website (GPP) (https://www.pharmcouncil.co.za), SA GCP https://www.sahpra.org.za/wp-content/uploads/2021/06/SA-GCP-2020_Final.pdf), ICH https://database.ich.org/sites/default/files/E6_R2_Addendum.pdf), • Declaration of Helsinki, WHO website (https://www.who.int)	
Learning outcomes	• **Assessment Criteria**	
1. Student must be able to appraise the need for Good Pharmacy Practice (GPP)	• Discuss the underlying philosophy and essential elements of Good Pharmacy Practice (GPP) • Interpret the necessity of professional standards in GPP1.3	
2. Student must be able to appraise the need for Good Clinical Practice (GCP) for clinical research	• Discuss the good clinical practice principles and essential elements • Determine the key ICH-GCP requirements and regulatory expectations regarding the conduct of trials in comparison with those for South African GCP requirements • Discuss the reporting requirements for clinical trials • Compare the responsibilities of the various stakeholders • Elaborate on the potential data integrity concerns and the importance of data integrity	
3. Student must be able to appraise the need for Good Regulatory Practice (GRP)	• Discuss the principles and essential elements of good regulatory practice relating to the registration of medicinene. • Demonstrate the practical application of GRP in risk assessment of technical and other identified regulatory deficiencies	
4. Student must be able to appraise Good Laboratory	• Discuss good analytical laboratory practice principles and essential elements relating to the application for and maintenance of registration of medicines	

practice (GLP)	
Pre-requisite modules for this module:	MGMP011 Current Good Manufacturing Practice
Co-requisite modules for module:	N/A
Assessment strategy	Formative Assessment Methods: Assignment Summative Assessment Methods: Exam or case studies.

Quality and Bioequivalence		
MRQB082	**Quality and Bioequivalence**	**Credits: 20**
Lectures per week:	**Practicals per week;**	**Turorials per week:**
Purpose of the module	• This core module is designed to consolidate and expand knowledge gained throughout undergraduate learning. The module will revisit and expand the application of the pharmaceutical sciences, pharmacy, and biopharmaceutics to support the student in integrating the knowledge for successful reasoning, evaluation and determination of the correct true and relevant information to demonstrate quality and bioequivalence for the application for and maintenance of the registration of medicines and will ultimately fulfil the criteria of the Exit Level Outcomes (ELO).	
Content (list topics):	• Quality i.e. active pharmaceutical Ingredient (API) finished pharmaceutical product (FPP), stability. Bioequivalence i.e. pharmaceutical availability & bioequivalence, biowaivers, biosimilars.	
Exit Level Outcomes addressed by this module	• ELO 4: The PGDip (Pharmaceutical Regulatory Affairs) student will access, process and manage information in order to critically review information in compiling of the licence and permit applications in compliance with the Medicines & Related Substances Act, 1965 (Act 101 of 1965), Pharmacy Act, 1974 (Act 53 of 1974), and the SAHPRA Guidelines, in line with the National Health and National Drug Policies required for the Health Products Industry. • ELO 5: The PGDip (Pharmaceutical Regulatory Affairs) student will demonstrate an understanding and engagement with appropriate risk-based science to construct the procedures, processes and/or techniques in pharmaceutical regulatory affairs. • ELO 6: The PGDip (Pharmaceutical Affairs) student will critically engage with researched information in order to address scientific and/or technical challenges within pharmaceutical regulatory affairs.	
Prescribed/recommended texts	• Quality & Bioequivalence Guidelines: SAHPRA, ICH, EMA, FDA, TGA, HC, WHO and other websites for orthodox, biological, veterinary and complementary medicines.	
Learning outcomes	**Assessment Criteria**	

1. Student must be able to successfully compile the Active pharmaceutical ingredient data required for the application for and maintenance of registration of orthodox medicines in the Pharmaceutical Industry	• Understand the relevant South African and International guidelines to assess, compile and submit the - Active pharmaceutical ingredient (API) synthesis, starting materials and intermediates, and stability, in accordance with the relevant guidelines and requirements for API GMP compliance. - API specifications and justification, analytical procedures, validation, reference standards, container closure systems in accordance with the requirements for application for and maintenance of registration of medicines - Assess, compile, and demonstrate the equivalence of APIs manufactured by different routes of synthesis and/or manufacturers, with or without the certificates of the EDQM or WHO (CEP and CPQ respectively) in accordance with the requirements for the maintenance of registration of medicines. • Assess the query, and justify or amend as appropriate, the data submitted in support of the quality and stability of the API when queried by the Authority (SAHPRA). • Assess, compile, and justify or amend the required variations/amendments to the data submitted in support of the quality and stability of the API when changed by the API manufacturer • List the impurity risks and assess the relevance of each impurity risk to the API impurity profile and submit these accordingly as appropriate for the requirements for the application for and maintenance of registration of medicines.
2. Successfully compile the Final product data required for the application for and maintenance of registration of orthodox medicines in the Pharmaceutical Industry	• Understand the relevant South African and International guidelines to assess, compile and submit the - Final product development, manufacture in accordance with the relevant guidelines and requirements for the application for and maintenance of registration of medicines - Final product (FP) specifications and justification, analytical procedures, validation, reference standards, container closure systems, and stability, in accordance with the requirements for the application for and maintenance of registration of medicines - the equivalence of FPs manufactured by different FP and API manufacturers, in accordance with the requirements for the maintenance of registration of medicines • Assess the query, and justify or amend as appropriate, the data submitted in support of the quality and stability of the FP when queried by the Authority (SAHPRA). • Assess, compile, and justify/amend the required variations/amendments to the data submitted in support of the quality and stability of the FP when changed by the FP manufacturer. • List the impurity risks and assess the relevance of each impurity risk, to the final product impurity profile and submit these accordingly as appropriate for the requirements for the application for and maintenance of registration of medicines
3. Successfully compile the Quality Module required for registration of complementary medicines in the Pharmaceutical Industry	• Understand the relevant South African and International guidelines to assess, compile and submit the scientifically and technically appropriate data in support of the - quality and stability of the ingredients of complementary medicines - quality and stability of the final complementary medicine • Assess the query, and justify or amend as appropriate, the data submitted in support of the quality and stability of the FP when queried by the Authority (SAHPRA). • Assess, compile, and justify/amend the required variations/amendments to the data submitted in support of the quality and stability of the medicine when changed by the API or FP manufacturer • Assess, compile, and justify/amend the final product pharmaceutical performance data in support of the efficacy of complementary medicines in the Pharmaceutical Industry

4. Successfully compile the Final product pharmaceutical performance data required for the registration of orthodox medicines in the Pharmaceutical Industry	• Understand the relevant South African and International guidelines to assess, compile and submit the - Final product performance data (pharmaceutical availability or biowaiver, bioavailability or bioequivalence, or biosimilars) in accordance with the relevant guidelines and requirements for the application for and maintenance of registration of medicines including orphan medicines - Equivalence of pharmaceutical performance / bioequivalence of medicines manufactured by different FP manufacturers with API from different API manufacturers in accordance with the requirements for the application for and maintenance of registration of medicines • Assess the query, and justify or amend as appropriate, the data submitted in support of the pharmaceutical performance/bioequivalence of the FP in anticipation of, and when queried by the Authority (SAHPRA). • Assess, compile, and justify/amend demonstrate the final product performance (pharmaceutical- or bioavailability or equivalence) for variations/amendments to the final product, when changed by the FP manufacturer • List the impurity risks and assess the relevance of each impurity risk, to the final product impurity profile and submit these accordingly as appropriate for the requirements for the application for and maintenance of registration of medicines
Pre-requisite modules for this module:	MRGP012 Related Good Practices
Co-requisites modules for module:	N/A
Assessment strategy	Formative Assessment Methods: Assignment Summative Assessment Methods: Exam or case studies

Safety and efficacy		
MRSE012	**Safety and efficacy**	**Credits: 20**
Lectures per week:	**Practiials per week**	Tutorials per week
Purpose of the module	This core module is designed to consolidate and expand knowledge gained throughout undergraduate learning. The module will revisit and expand the scientific application of pharmacology to the demonstration of the safety and efficacy of medicines, to support the student in integrating the knowledge to successful reasoning, evaluation and determination of the correct true and relevant safety and efficacy information for the application for and maintenance of the registration of medicines, and will ultimately fulfil the criteria of the Exit Level Outcomes (ELO).	
Content (list topics):	Safety and efficacy: SAHPRA and ICH Clinical safety, efficacy, pharmacovigilance, pharmacology and pharmacokinetics guidelines, essential drug list (EDL).	

Exit Level Outcomes addressed by this module	• ELO 1: The PGDip (Pharmaceutical Regulatory Affairs) student will interrogate practices and demonstrate the ability to assess processes of the general, regional, and labelling requirements for a health products registration application in compliance with the Medicines and Related Substance Act, 1965 (Act 101 of 1965), the Pharmacy Act , 1974 (Act 53 of 1974), and the South African Health Products Regulatory Affairs (SAHPRA) Guidelines and in line with the National Health and the National Drug Policies. • ELO 2: The PGDip (Pharmaceutical Regulatory Affairs) student will demonstrate knowledge of and engagement with enabling and other relevant legislation of the registration and control of health products (medicines, medical devices and IVDs). • ELO 5: The PGDip (Pharmaceutical Regulatory Affairs) student will demonstrate an understanding and engagement with appropriate risk-based science to construct the procedures, processes and/or techniques in pharmaceutical regulatory affairs.
Prescribed/recommended texts	• SAHPRA, ICH, FDA, EMA, TGA, HC websites for safety, efficacy, pharmacovigilance, pharmacology and related guidelines for orthodox, biological and complementary medicines.
Learning outcomes	**Assessment Criteria**
1. Student must be able to apply for and maintain the new chemical entity (NCE) medicine information required for the registration of orthodox including biological medicines	• Understand the relevant South African legislation and International guidelines to - Apply for the Professional information in accordance with the relevant guidelines and requirements - Apply for the Patient information leaflet in accordance with the relevant guidelines and requirements - Reference and cross reference Professional Information with supporting evidence and/or literature, in accordance with the requirements for the application for and maintenance of registration of medicines • Assess the query, and justify or amend as appropriate, the data submitted in support of safety and efficacy of the FPP when queried by the Authority (SAHPRA). • Assess, compile, and justify or amend the required variations/amendments to the data submitted in support of safety and efficacy as necessitated by clinical evidence • Compile and submit pharmacovigilance outcomes in accordance with the requirements for the application for and maintenance of registration of medicines • Submit Pharmacovigilance and risk management plans required for the registration of medicines
2 Student must be able to apply for and comply with clinical trial requirements	Understand the relevant South African and International guidelines clinical trials to • apply for • report on • amend the application • terminate the study • lock the database and close.
3. Student must be able to apply for and maintain the medicine information required for the registration of complementary medicines	Understand the relevant South African and International guidelines to • apply for high or low risk indications • amend/update the professional information

4. Student must be able to apply for and maintain the medicine information required for the registration of veterinary including biological medicines	Understand the relevant South African and International guidelines to • apply for the professional veterinary medicine information • amend/update the veterinary medicine information
Pre-requisite modules for this module:	MRQB012 Quality & Bioequivalence
Co-requisites modules for module:	N/A
Assessment strategy	Formative Assessment Methods: Assignment Summative Assessment Methods: Exam or case studies

MPHARM IN PUBLIC HEALTH PHARMACY AND MANAGEMENT

MODULAR INFORMATION			
Department:	Department of Public Health Pharmacy and Management	**School:**	Pharmacy
Last Revision date:	N/A	**First Year Offered (New):**	2021
Replace this Module existing module(s)?	No	**If YES, give the module codes:**	N/A
Module linked to Qualification/s:	MPharm in Public Health Pharmacy and Management		
Migration Strategy:	(If YES, Section G must also be completed)		

Pharmacy Research Mini-Dissertation	
Module Code: (4 alphabetic & 3 numeric)	PDIS940
Module Name:	Pharmacy Research Mini-Dissertation
Content:	Conduct research and prepare for publication in one of the specialisation fields of public health pharmacy. The range of topics will encompass any suitable postgraduate research study in the field of public health pharmacy
Learning Outcomes:	Students will be able to: • Critically evaluate information sources, literature and research on public health pharmacy, medicines and practices in terms of evidence for decision-making and implementation in practice. • Apply the principles of research methodology in the development of a research protocol and obtain ethical clearance. • Conduct research in accordance with established research methodology and ethics.

	• Analyse data, interpret findings and/or results and formulate conclusions and recommendations. • Write and submit a technical report, manuscript for publication or minor dissertation based on the research outcomes and obtain approval.					
Module Information:	**SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)**		**ITS Course Level**		**CESM Code (3rd Order) (Six Numbers)**	
	80		9		091199	
Delivery Information:	**Campus**		**Full/Part Time**		**Period (Year/1st/2ndSem)**	
	SMU		Contact - Full Time		Y	
Periods per week:	**Classes**	**Practicals**	**Tutorial**	**Seminars**	**Independent Learning**	
				5	35	
Pre-requisite modules for this module:	None					
Co-requisites modules for module:	REME801					
Assessment criteria	• Information sources, literature and research on public health pharmacy, medicines and practices in terms of evidence for decision-making and implementation in practice are critically evaluated. • The principles of research methodology are applied in the development of a research protocol and ethical clearance is obtained. • Research is conducted in accordance with established research methodology and ethics. • Data are analysed, findings and/or results are interpreted and conclusions and recommendations are formulated. • Write and submit a technical report, manuscript for publication or minor dissertation is written based on the research outcomes, submitted and approval obtained.					
Assessment method	Mini-dissertation, technical report or manuscript for publication.					
Mark Structure: Minimum Form Assessment Mark for exam admission (%)	NA					
NA	NA					
100%	100%					
Minimum final mark to pass (%)	50%					

Summative Assessment Paper:		**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical	Mini-dissertation or technical report or manuscript for publication			
	Duration	NA			
	% contribution to Summative Assessment Mark	100%			
	Sub minimum	50%			

MODULAR INFORMATION					
Department:	Department of Public Health Pharmacy and Management			**School:**	Pharmacy
Last Revision date:	N/A		**First Year Offered (New):**	2021	
Replace this Module existing module(s)?	No		**If YES, give the module codes:**	N/A	
Module linked to Qualification/s:	MPharm in Public Health Pharmacy and Management				
Migration Strategy:	No	(If YES, Section G must also be completed)			

Public Health Pharmacy Specific Elective					
Module Code: (4 alphabetic & 3 numeric)	PELE939				
Module Name:	Public Health Pharmacy Specific Elective				
Content:	Deepen knowledge of work in an appropriate interest area from a range of public health pharmacy topics. The range of topics for electives may include, but is not limited to, the following examples: • Pharmaceutical policy • Pharmacoeconomics • Logistics management in medicines supply • Pharmacovigilance • Health promotion • Preventative health e.g. Expanded Programme on Immunisation (EPI) • Health systems strengthening for access to medicines • Application of research into health policy and health services • Palliative care in public health • Information systems				
Learning Outcomes:	Students will be able to: • Review the literature of an interest area. • Enhance skills in scientific analysis and debate by means of the assessment submissions for the chosen elective. • Improve the ability to engage in independent research and writing by assessment submissions for the chosen elective. • Obtain extensive knowledge of the chosen elective field of public health pharmacy, for transition to independent practice.				
Module Information:	**SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)**		**ITS Course Level**		**CESM Code (3rd Order) (Six Numbers)**
	16		9		091199
Delivery Information:	**Campus**		**Full/Part Time**		**Period (Year/1st/2ndSem)**
	SMU		Contact - Full Time		Y
Periods per week:	**Classes**	**Practicals**	**Tutorial**	**Seminars**	**Independent Learning**
			5	5	30
Pre-requisite modules for this module:	None				
Co-requisites modules for module:	None				

Assessment criteria			• A literature review in the area of interest is performed. • Skills in scientific analysis and debate are enhanced by means of the assessment submissions for the chosen elective. • The ability to engage in independent research and writing is improved by assessment submissions for the chosen elective. • Extensive knowledge of the chosen elective field of public health pharmacy, for transition to independent practice, is demonstrated.			
Assessment method			**Formative assessment:** Assignments; Case studies **Summative assessment:** Written examination			
Mark Structure:	Minimum Form Assessment Mark for exam admission (%)		40%			
		60%	60%			
		40%	40%			
	Minimum final mark to pass (%)		50%			
Summative Assessment Paper:			**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical		Written Paper			
	Duration		3 hours			
	% contribution to Summative Assessment Mark		100			
	Sub minimum		40%			

MODULAR INFORMATION			
Department:	Department of Public Health Pharmacy and Management	**School:**	Pharmacy
Last Revision date:	N/A	**First Year Offered (New):**	2021
Replace this Module existing module(s)?	No	**If YES, give the module codes:**	N/A
Module linked to Qualification/s:	MPharm in Public Health Pharmacy and Management		
Migration Strategy:	No (If YES, Section G must also be completed)		

Introduction to Epidemiology and Biostatistics	
Module Code: (4 alphabetic & 3 numeric)	PIEB912
Module Name:	Introduction to Epidemiology and Biostatistics
Content:	Apply the principles of epidemiology and biostatics in disease prevention, health promotion, healthcare delivery and policy development
Learning Outcomes:	The student will be able to: • Evaluate the key features and applications of epidemiology in public health practice • Apply summary measures to describe and evaluate the disease profile of a population for decision making in public health • Design appropriate studies to determine causes of disease, prognosis, prevention, and the evaluation of interventions

<table>
<tr><td></td><td colspan="5">

Analyse the modifiable causes of disease and apply epidemiology in disease prevention
Analyse epidemiological data on communicable and non-communicable diseases to appraise the effectiveness and efficiency of healthcare delivery
Identify, analyse and evaluate the main determinants of health for potential implementation into health policy and health services
Analyse the application of epidemiological principles to study the effects of medications in human populations
Apply the principles and methods of epidemiology in health services research, public health, policy and planning
Explore the three basic scales of measurement in the collection of data and apply various techniques to describe and display different data sets
Apply appropriate descriptive statistics to summarise and compare univariate data sets
Analyse descriptive measures of association in bivariate data sets obtained on the nominal, ordinal and ratio scale of measurement
Appraise and apply statistical concepts in the design of research studies
Apply statistical inference to draw conclusions about a population with a focus on the practical application of interval estimation and elementary sample size calculations
Explain statistical hypothesis testing and outline standard elementary parametric tests commonly employed in inferential statistics

</td></tr>
<tr><td rowspan="2">Module Information:</td><td colspan="2">SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)</td><td colspan="2">ITS Course Level</td><td>CESM Code (3rd Order) (Six Numbers)</td></tr>
<tr><td colspan="2">24</td><td colspan="2">9</td><td>091199</td></tr>
<tr><td rowspan="2">Delivery Information:</td><td colspan="2">Campus</td><td colspan="2">Full/Part Time</td><td>Period (Year/1st/2ndSem)</td></tr>
<tr><td colspan="2">SMU</td><td colspan="2">Contact - Full Time</td><td>Y</td></tr>
<tr><td rowspan="2">Periods per week:</td><td>Classes</td><td>Practicals</td><td>Tutorial</td><td>Seminars</td><td>Independent Learning</td></tr>
<tr><td></td><td></td><td>5</td><td>5</td><td>30</td></tr>
<tr><td>Pre-requisite modules for this module:</td><td colspan="5">None</td></tr>
<tr><td>Co-requisites modules for module:</td><td colspan="5">None</td></tr>
<tr><td>Assessment criteria</td><td colspan="5">

The key features of epidemiology are correctly applied in public health practice
Scales of measurement are correctly applied in the collection of data for decision making in public health
Appropriate studies are designed to determine causes of disease, prognosis, prevention and control of disease
Data of epidemiological studies are correctly examined, analysed and interpreted
Modifiable causes of disease are analysed and epidemiology is applied in disease prevention
Epidemiological data on communicable and non-communicable diseases are analysed to appraise the effectiveness and efficiency of healthcare delivery
The main determinants of health are identified, analysed and evaluated for potential implementation into health policy and health services
The application of epidemiological principles to study the effects of medication in human populations are analysed
The principles and methods of epidemiology are applied in health services research, public health, policy and planning

</td></tr>
</table>

			• Scales of measurement are correctly applied in the collection of data and data sets are appropriately described and displayed • Univariate data sets are summarised and compared using appropriate descriptive statistics • Descriptive measures of association are applied and interpreted for bivariate data sets obtained on the nominal, ordinal and ratio scale of measurement • Statistical concepts are applied when research studies are designed • Statistical inference is applied to draw conclusions about a population with a focus on the practical application of interval estimation and elementary sample size calculations • Hypothesis testing and standard elementary parametric tests are correctly applied to comparisons within a data set			
Assessment method			**Formative assessment:** Assignments; Case studies; Electronic assessments with MCQs **Summative assessment:** Written examination			
Mark Structure:	Minimum Form Assessment Mark for exam admission (%)		40%			
		% Formative Assessment Mark	60%			
		% Summative Assessment Mark	40%			
	Minimum final mark to pass (%)		50%			
Summative Assessment Paper:			**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical		Written Paper			
	Duration		3 hours			
	% contribution to Summative Assessment Mark		100			
	Sub minimum		40%			

MODULAR INFORMATION			
Department:	Department of Public Health Pharmacy and Management	**School:**	Pharmacy
Last Revision date:	N/A	**First Year Offered (New):**	2021
Replace this Module existing module(s)?	**No**	**If YES, give the module codes:**	**N/A**
Module linked to Qualification/s:	MPharm in Public Health Pharmacy and Management		
Migration Strategy:	**No**	(If YES, Section G must also be completed)	

Management and Leadership Principles	
Module Code: (4 alphabetic & 3 numeric)	PMLP911
Module Name:	Management and Leadership Principles
Content:	Perform sound management and leadership processes, styles and skills in the management of an organisation

<table>
<tr><td>Learning Outcomes:</td><td colspan="5">The student will be able to:
• Analyse and discuss the foundations of management
• Identify and uphold ethical behaviour in line with the different codes of conduct and ethical requirements as a manager
• Analyse the different environments in which organisations function
• Analyse the dimensions of managerial decision making
• Provide an overview of planning and strategic management in organisations
• Analyse and discuss organising as a management function in organisations
• Evaluate and apply organisational skills and build a dynamic organisation for the provision of an effective service
• Interpret why diversity is a critical organisational and management issue in South Africa
• Analyse the leadership concepts, theories, models, styles and skills applicable to the management of a healthcare organisation
• Appraise the public and private sectors perspective of project management
• Discuss practical and effective techniques that a manager can use to motivate employees for increased performance in the workplace
• Appraise mentoring as a means to leading
• Construct and manage teams within an organisation
• Analyse and manage communication in the organisation to ensure effective communication
• Exercise managerial control in an organisation
• Analyse the creation and management of change in an organisation, including how to manage risks and oneself during times of change</td></tr>
<tr><td rowspan="2">Module Information:</td><td colspan="2">SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)</td><td colspan="2">ITS Course Level</td><td>CESM Code (3rd Order) (Six Numbers)</td></tr>
<tr><td colspan="2">24</td><td colspan="2">9</td><td>091102</td></tr>
<tr><td rowspan="2">Delivery Information:</td><td colspan="2">Campus</td><td colspan="2">Full/Part Time</td><td>Period (Year/1st/2ndSem)</td></tr>
<tr><td colspan="2">SMU</td><td colspan="2">Contact - Full Time</td><td>Y</td></tr>
<tr><td rowspan="2">Periods per week:</td><td>Classes</td><td>Practicals</td><td>Tutorial</td><td>Seminars</td><td>Independent Learning</td></tr>
<tr><td></td><td>5</td><td>2</td><td>3</td><td>30</td></tr>
<tr><td>Pre-requisite modules for this module:</td><td colspan="5">None</td></tr>
<tr><td>Co-requisites modules for module:</td><td colspan="5">None</td></tr>
<tr><td>Assessment criteria</td><td colspan="5">• The foundations of management are analysed and discussed
• Ethical behaviour is identified and upheld in line with the different codes of conduct and ethical requirements as a manager
• The different environments in which organisations function are analysed
• The dimensions of managerial decision making are analysed
• An overview of planning and strategic management in organisations is provided
• Organising as a management function in organisations is analysed and discussed
• Organisational skills are evaluated and applied, and a dynamic organisation is built for the provision of an effective service
• Diversity as a critical organisational and management issue in South Africa is interpreted
• The leadership concepts, theories, models, styles and skills applicable to the management of a healthcare organisation are analysed</td></tr>
</table>

			• The public and private sectors perspective of project management is appraised • The practical and effective techniques that a manager can use to motivate employees to perform work are discussed • The ability to successfully mentor an employee is demonstrated • A team is constructed and managed within an organisation • The ability to communicate effectively within an organisation is demonstrated • Managerial control is exercised in an organisation • The creation and management of change in an organisation is analysed, including how to manage risks and oneself during times of change			
Assessment method			**Formative assessment:** Case studies; Blog discussions; Electronic assessments with MCQs; WBL: Portfolio of evidence on self-awareness and analysis: self, manager, work environment; Strategic Plan, completed by each learner for the pharmacy where they are currently working **Summative assessment:** Written examination			
Mark Structure:	Minimum Form Assessment Mark for exam admission (%)		40%			
		% Formative Assessment Mark	60%			
		% Summative Assessment Mark	40%			
	Minimum final mark to pass (%)		50%			
Summative Assessment Paper:			**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical		Written Paper			
	Duration		3 hours			
	% contribution to Summative Assessment Mark		100			
	Sub minimum		40%			

MODULAR INFORMATION			
Department:	Department of Public Health Pharmacy and Management	**School:**	Pharmacy
Last Revision date:	N/A	**First Year Offered (New):**	2021
Replace this Module existing module(s)?	No	**If YES, give the module codes:**	N/A
Module linked to Qualification/s:	MPharm in Public Health Pharmacy and Management		
Migration Strategy:	(If YES, Section G must also be completed)		

Management of Pharmaceutical Services	
Module Code: (4 alphabetic & 3 numeric)	PMPS923
Module Name:	Management of Pharmaceutical Services
Content:	Strategic management and leadership in the effective and efficient management of pharmaceutical services
Learning Outcomes:	Students will be able to:

<table>
<tr><td></td><td colspan="5">

Appraise the roles, responsibilities and authority of the responsible pharmacist
Analyse and assess what constitutes pharmaceutical services management at various levels within the legal, professional-ethical and policy framework
Interpret and implement the strategic and operational plans at the various levels of a pharmaceutical service
Analyse the structure of a quality management system within pharmaceutical services management
Apply the leading and managing practices in identifying challenges and implementing a quality improvement initiative
Explain the link between leading and managing practices and health outcomes using the Leading and Managing for Results Model
Use the Challenge Model to identify challenges and achieve a desired measurable result
Apply the leading and managing practices in identifying challenges and implementing a quality improvement initiative
Monitor progress towards achieving the desired measurable result
Manage pharmaceutical services cost-effectively within the organisation's financial system and legal and policy framework
Manage human resources effectively within pharmaceutical services and in accordance with the legal and policy framework

</td></tr>
<tr><td rowspan="2">Module Information:</td><td>SAQA Credits
(4; 8; 12; 16; 20; 24; 28;32)</td><td colspan="2">ITS Course Level</td><td colspan="2">CESM Code (3rd Order)
(Six Numbers)</td></tr>
<tr><td>20</td><td colspan="2">9</td><td colspan="2">091102</td></tr>
<tr><td rowspan="2">Delivery Information:</td><td>Campus</td><td colspan="2">Full/Part Time</td><td colspan="2">Period
(Year/1st/2ndSem)</td></tr>
<tr><td>SMU</td><td colspan="2">Contact - Full Time</td><td colspan="2">Y</td></tr>
<tr><td rowspan="2">Periods per week:</td><td>Classes</td><td>Practicals</td><td>Tutorial</td><td>Seminars</td><td>Independent Learning</td></tr>
<tr><td></td><td>5</td><td>2</td><td>3</td><td>30</td></tr>
<tr><td>Pre-requisite modules for this module:</td><td colspan="5">None</td></tr>
<tr><td>Co-requisites modules for module:</td><td colspan="5">None</td></tr>
<tr><td>Assessment criteria</td><td colspan="5">

The roles, responsibilities and authority of the responsible pharmacist are evaluated, contextualised and fulfilled in the management of pharmaceutical services
A sound management structure of a pharmaceutical service is implemented within in the legal, professional-ethical and policy context at the appropriate levels of service
The strategic and operational plans at the various levels of a pharmaceutical service are interpreted and implemented
An effective quality management system for pharmaceutical service management is implemented and maintained
The leading and managing practices are used in identifying and addressing the workplace challenge
The link between leading and managing practices and health outcomes is explained using the Leading and Managing for Results Model
The Challenge Model is used to identify challenges and achieve a desired measurable result
Leading and managing practices are applied in identifying challenges and implementing a quality improvement initiative
Progress towards achieving the desired measurable result is monitored

</td></tr>
</table>

			• Pharmaceutical financial management is performed in a cost-effective manner within the legal and policy framework • Human resources within the pharmaceutical services are managed in an effective manner to the best advantage of service delivery and in accordance with the legal and policy framework			
Assessment method			**Formative assessment:** Case studies; Electronic assessments with MCQs; Assignments (individual and group) WBL: Individual quality improvement project (QIP) in the workplace: Technical report, oral presentation, poster **Summative assessment:** Written examination and oral presentation of quality improvement project			
Mark Structure:	Minimum Form Assessment Mark for exam admission (%)		40%			
		% Formative Assessment Mark	60%			
		% Summative Assessment Mark	40%			
	Minimum final mark to pass (%)		50%			
Summative Assessment Paper:			**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical		Written Paper	Oral presentation of QIP project		
	Duration		3 hours	30 minutes		
	% contribution to Summative Assessment Mark		50%	50%		
	Sub minimum		40%	40%		

MODULAR INFORMATION			
Department:	Department of Public Health Pharmacy and Management	**School:**	Pharmacy
Last Revision date:	N/A	**First Year Offered (New):**	2021
Replace this Module existing module(s)?	No	**If YES, give the module codes:**	N/A
Module linked to Qualification/s:	MPharm in Public Health Pharmacy and Management		
Migration Strategy:	No (If YES, Section G must also be completed)		

Medicines Supply and Distribution	
Module Code: (4 alphabetic & 3 numeric)	PMSD926
Module Name:	Medicines Supply and Distribution
Content:	The management of medicines supply and distribution within the health services of the country
Learning Outcomes:	Students will be able to: • Analyse the framework and components of pharmaceutical supply systems

<table>
<tr><td colspan="2"></td><td colspan="5">

Design, implement and maintain an efficient and effective pharmaceutical storage facility and inventory control system
Appraise the public sector pharmaceutical distribution system in South Africa and its interactions with the private sector
Plan, design or redesign and maintain a Pharmacy or Health Management Information System to improve access to pharmaceuticals
Utilise a Pharmacy or Health Management Information System which is operational for decision-making
Appraise and apply a quality system to ensure effective and efficient supply and distribution of medicines
Appraise and apply the principles of cold chain management according to required standards
Design tools to monitor and evaluate the supply chain system and provide feedback to relevant stakeholders

</td></tr>
<tr><td colspan="2" rowspan="2">Module Information:</td><td colspan="2">SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)</td><td colspan="2">ITS Course Level</td><td>CESM Code (3rd Order) (Six Numbers)</td></tr>
<tr><td colspan="2">12</td><td colspan="2">9</td><td>091102</td></tr>
<tr><td colspan="2" rowspan="2">Delivery Information:</td><td colspan="2">Campus</td><td colspan="2">Full/Part Time</td><td>Period (Year/1st/2ndSem)</td></tr>
<tr><td colspan="2">SMU</td><td colspan="2">Contact - Full Time</td><td>Y</td></tr>
<tr><td colspan="2" rowspan="2">Periods per week:</td><td>Classes</td><td>Practicals</td><td>Tutorial</td><td>Seminars</td><td>Independent Learning</td></tr>
<tr><td></td><td>2</td><td>3</td><td>5</td><td>30</td></tr>
<tr><td colspan="2">Pre-requisite modules for this module:</td><td colspan="5">None</td></tr>
<tr><td colspan="2">Co-requisites modules for module:</td><td colspan="5">None</td></tr>
<tr><td colspan="2">Assessment criteria</td><td colspan="5">

The framework and components of pharmaceutical supply systems are analysed and implemented
An efficient and effective pharmaceutical storage facility and inventory control system are designed, implemented and maintained
The pharmaceutical distribution system of the public sector and its interactions with the private sector in South Africa is appraised
A Pharmacy or Health Management Information System is planned, designed or redesigned to improve access to pharmaceuticals
An operational Pharmacy or Health Management Information System is utilised for decision-making
A quality system is appraised and applied to ensure effective and efficient supply and distribution of medicines
The principles of cold chain management are appraised and applied according to the required standards
Tools are designed to monitor and evaluate the supply chain system and provide feedback to relevant stakeholders

</td></tr>
<tr><td colspan="2">Assessment method</td><td colspan="5">Formative assessment: Assignments; Electronic assessments with MCQs
Summative assessment: Written examination</td></tr>
<tr><td rowspan="4">Mark Structure:</td><td colspan="2">Minimum Form Assessment Mark for exam admission (%)</td><td colspan="5">40%</td></tr>
<tr><td rowspan="2"></td><td>% Formative Assessment Mark</td><td colspan="5">60%</td></tr>
<tr><td>% Summative Assessment Mark</td><td colspan="5">40%</td></tr>
<tr><td colspan="2">Minimum final mark to pass (%)</td><td colspan="5">50%</td></tr>
</table>

		Paper 1	Paper 2	Paper 3	Paper 4
Summative Assessment Paper:	Theory/practical	Written Paper			
	Duration	3 hours			
	% contribution to Summative Assessment Mark	100			
	Sub minimum	40%			

MODULAR INFORMATION			
Department:	Department of Public Health Pharmacy and Management	**School:**	Pharmacy
Last Revision date:	N/A	**First Year Offered (New):**	2021
Replace this Module existing module(s)?	No	**If YES, give the module codes:**	N/A
Module linked to Qualification/s:	MPharm in Public Health Pharmacy and Management		
Migration Strategy:	No (If YES, Section G must also be completed)		

Medicines Selection and Procurement			
Module Code: (4 alphabetic & 3 numeric)	PMSP925		
Module Name:	Medicines Selection and Procurement		
Content:	Analyse, interpret and manage information to ensure the rational selection and procurement of effective medicines		
Learning Outcomes:	Students will be able to: • Analyse and appraise access to effective and affordable medicines from a global and South African perspective • Appraise and apply the essential medicines concept in the selection of medicines for essential medicines lists and standard treatment guidelines • Analyse the importance and role of a pharmacy and therapeutics committee (PTC) for medication management in a health system. • Implement and participate in all the activities of the pharmacy and therapeutics committee to enhance the rational use of medicines. • Critically evaluate and appraise information sources, literature and research on medicines and practices in terms of evidence for decision-making and implementation in practice • Analyse the procurement process and good pharmaceutical procurement practices within the commonly experienced procurement challenges. • Appraise and apply good procurement practises and quantification methods for medicines. • Appraise and apply the principles of quality assurance in the selection and procurement of medicines		
Module Information:	**SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)**	**ITS Course Level**	**CESM Code (3rd Order) (Six Numbers)**

<table>
<tr><td colspan="3"></td><td colspan="2">12</td><td colspan="2">9</td><td>091102</td></tr>
<tr><td colspan="3" rowspan="2">Delivery Information:</td><td colspan="2">Campus</td><td colspan="2">Full/Part Time</td><td>Period (Year/1st/2ndSem)</td></tr>
<tr><td colspan="2">SMU</td><td colspan="2">Contact - Full Time</td><td>Y</td></tr>
<tr><td colspan="3" rowspan="2">Periods per week:</td><td>Classes</td><td>Practicals</td><td>Tutorial</td><td>Seminars</td><td>Independent Learning</td></tr>
<tr><td></td><td></td><td>5</td><td>5</td><td>30</td></tr>
<tr><td colspan="3">Pre-requisite modules for this module:</td><td colspan="5">None</td></tr>
<tr><td colspan="3">Co-requisites modules for module:</td><td colspan="5">None</td></tr>
<tr><td colspan="3">Assessment criteria</td><td colspan="5">• Access to effective and affordable medicines from a global and South African perspective is appraised
• The framework and components of a medicines supply system are analysed
• Essential medicine lists and standard treatment guidelines are developed, implemented and evaluated.
• Information sources, literature and research on medicines and practices are critically evaluated in terms of evidence for decision-making and implementation in practice
• The importance and role of a pharmacy and therapeutics committee (PTC) for medication management in a health system is analysed
• Rational drug use is appraised and enhanced through implementation of and participation in all the activities of the pharmacy and therapeutics committee (PTC)
• The procurement process is analysed and good pharmaceutical procurement practices are appraised and applied
• Different quantification methods for medicine needs are compared and applied in procurement of pharmaceuticals
• The principles of quality assurance are appraised and applied in the selection and procurement of pharmaceuticals</td></tr>
<tr><td colspan="3">Assessment method</td><td colspan="5">Formative assessment: Case studies; Assignments (group and individual); Electronic assessments with MCQs
Summative assessment: Written examination</td></tr>
<tr><td rowspan="4">Mark Structure:</td><td colspan="2">Minimum Form Assessment Mark for exam admission (%)</td><td colspan="5">40%</td></tr>
<tr><td rowspan="2"></td><td>% Formative Assessment Mark</td><td colspan="5">60%</td></tr>
<tr><td>% Summative Assessment Mark</td><td colspan="5">40%</td></tr>
<tr><td colspan="2">Minimum final mark to pass (%)</td><td colspan="5">50%</td></tr>
<tr><td rowspan="5">Summative Assessment Paper:</td><td></td><td>Paper 1</td><td>Paper 2</td><td>Paper 3</td><td>Paper 4</td></tr>
<tr><td>Theory/practical</td><td>Written Paper</td><td></td><td></td><td></td></tr>
<tr><td>Duration</td><td>3 hours</td><td></td><td></td><td></td></tr>
<tr><td>% contribution to Summative Assessment Mark</td><td>100</td><td></td><td></td><td></td></tr>
<tr><td>Sub minimum</td><td>40%</td><td></td><td></td><td></td></tr>
</table>

MODULAR INFORMATION					
Department:	Department of Public Health Pharmacy and Management			**School:**	Pharmacy
Last Revision date:	N/A		**First Year Offered (New):**	2021	
Replace this Module existing module(s)?	No		**If YES, give the module codes:**	N/A	
Module linked to Qualification/s:	MPharm in Public Health Pharmacy and Management				
Migration Strategy:	No	(If YES, Section G must also be completed)			

Pharmacoeconomics					
Module Code: (4 alphabetic & 3 numeric)	PPEC927				
Module Name:	Pharmacoeconomics				
Content:	Application of pharmacoeconomics in practice to ensure the rational use of pharmaceuticals and health services in public health				
Learning Outcomes:	Students will be able to: • Examine the basic concepts of pharmacoeconomics • Examine and understand the different types of health care costs • Critically appraise the quality of pharmacoeconomic literature for application in pharmacoeconomic analyses and decision-making • Appraise the four types of pharmacoeconomic analyses • Describe the purpose for decision analysis and basic principles of Markov Models • Construct a simple model for pharmacoeconomic evaluation and decision-making				
Module Information:	**SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)**		**ITS Course Level**		**CESM Code (3rd Order) (Six Numbers)**
	12		9		091107
Delivery Information:	**Campus**		**Full/Part Time**		**Period (Year/1st/2ndSem)**
	SMU		Contact - Full Time		Y
Periods per week:	**Classes**	**Practicals**	**Tutorial**	**Seminars**	**Independent Learning**
			5	5	30
Pre-requisite modules for this module:	None				
Co-requisites modules for module:	None				
Assessment criteria	• The subject of pharmacoeconomics is defined and described • Input and outcome measures are illustrated using the pharmacoeconomic equation • The different types of health care costs are appraised • Calculations are used to adjust past costs, and discount future costs • The quality of pharmacoeconomic literature is critically reviewed and appraised using a set of review questions • The four types of pharmacoeconomic analyses are appraised • The purpose for decision analysis and the basic principles underlying a Markov Analysis are described • A simple model for pharmacoeconomic evaluation and decision-making is constructed.				

Assessment method			**Formative assessment:** Assignments; Electronic assessment with MCQs **Summative assessment:** Written examination			
Mark Structure:	Minimum Form Assessment Mark for exam admission (%)		40%			
		% Formative Assessment Mark	60%			
		% Summative Assessment Mark	40%			
	Minimum final mark to pass (%)		50%			
Summative Assessment Paper:			**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical		Written Paper			
	Duration		3 hours			
	% contribution to Summative Assessment Mark		100			
	Sub minimum		40%			

MODULAR INFORMATION			
Department:	Department of Public Health Pharmacy and Management	**School:**	Pharmacy
Last Revision date:	N/A	**First Year Offered (New):**	2021
Replace this Module existing module(s)?	No	**If YES, give the module codes:**	N/A
Module linked to Qualification/s:	MPharm in Public Health Pharmacy and Management		
Migration Strategy:	No (If YES, Section G must also be completed)		

Pharmaceutical Public Health Management	
Module Code: (4 alphabetic & 3 numeric)	PPPH924
Module Name:	Pharmaceutical Public Health Management
Content:	Implement the concepts and principles of public health to protect and promote general health and well-being within the health system.
Learning Outcomes:	Students will be able to: • Analyse the role of the pharmacist in the implementation of public health concepts within the context of pharmaceutical public health in South Africa • Identify, appraise and adhere to the principles of good corporate governance • Interpret the legislation pertaining to pharmaceutical public health • Examine health systems in general and appraise the health systems for the delivery of health care services in South Africa • Appraise, implement and review pharmaceutical public health policies and procedures for economic, effective and efficient pharmaceutical services delivery • Develop public health policies for the management of and rational use of medicines to improve health services. • Analyse, implement and adhere to policy instruments in the delivery of pharmaceutical services

<table>
<tr><td></td><td colspan="5">Compile a situation analysis and strategic plan to deliver effective and efficient pharmaceutical and health care services in the workplace
Apply the different social, psychological and behavioural aspects in the design of health promotion and educational interventions
Design and implement screening services for health promotion
Apply risk management principles in public health pharmacy with reference to occupational health and safety, and environmental health
Design surveillance tools to collect information on community health
Design and manage a public health pharmacy project for the promotion of community health</td></tr>
<tr><td rowspan="2">Module Information:</td><td colspan="2">SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)</td><td colspan="2">ITS Course Level</td><td>CESM Code (3rd Order) (Six Numbers)</td></tr>
<tr><td colspan="2">28</td><td colspan="2">9</td><td>091199</td></tr>
<tr><td rowspan="2">Delivery Information:</td><td colspan="2">Campus</td><td colspan="2">Full/Part Time</td><td>Period (Year/1st/2ndSem)</td></tr>
<tr><td colspan="2">SMU</td><td colspan="2">Contact - Full Time</td><td>Y</td></tr>
<tr><td rowspan="2">Periods per week:</td><td>Classes</td><td>Practicals</td><td>Tutorial</td><td>Seminars</td><td>Independent Learning</td></tr>
<tr><td></td><td>2</td><td>3</td><td>5</td><td>30</td></tr>
<tr><td>Pre-requisite modules for this module:</td><td colspan="5">None</td></tr>
<tr><td>Co-requisites modules for module:</td><td colspan="5">None</td></tr>
<tr><td>Assessment criteria</td><td colspan="5">The legislation pertaining to pharmaceutical public health is interpreted
The principles of good corporate governance are Identified, appraised and adhered to
The context of the public health and the pharmaceutical public health environment are analysed
Heath systems for the delivery of health care services are critically explored and analysed
Management principles and leadership roles are analysed and correctly applied in pharmaceutical public health
The application of the pharmaceutical policy process at the relevant levels of pharmaceutical service delivery is outlined
Public health policies are developed for the management and rational use of medicines to improve health services
Policy instruments are analysed, implemented and adhered to in the delivery of pharmaceutical services
A situation analysis and strategic plan are compiled for the delivery of effective and efficient pharmaceutical and health care services in the workplace
Social, psychological and behavioural aspects are applied in health promotion, education and the design of interventions for the health and wellbeing of the community
Screening services for health promotion are designed and implemented
The different dimensions of occupational health and safety are analysed and then applied in workplace risk management
The impact of environmental factors on the health and welfare of the society are analysed and considered in public health pharmacy management
Surveillance tools are designed and used to collect information on community health</td></tr>
</table>

			• Rapid risk assessments are performed for occupational health and safety, and for environmental health, in public health pharmacy management • A public health pharmacy project to promote community health is designed and managed			
Assessment method			**Formative assessment:** Case studies; Assignments; Electronic assessments with MCQs; WBL: Health promotion project for the community surrounding the workplace **Summative assessment:** Written examination and technical report on health promotion project			
Mark Structure:	Minimum Form Assessment Mark for exam admission (%)		40%			
		% Formative Assessment Mark	60%			
		% Summative Assessment Mark	40%			
	Minimum final mark to pass (%)		50%			

Summative Assessment Paper:		**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical	Written Paper	Technical report (Health promotion project)		
	Duration	4 hours	N/A		
	% contribution to Summative Assessment Mark	80	20		
	Sub minimum	40%	40%		

MODULAR INFORMATION			
Department:	Department of Public Health Pharmacy and Management	**School:**	Pharmacy
Last Revision date:	N/A	**First Year Offered (New):**	2021
Replace this Module existing module(s)?	No	**If YES, give the module codes:**	N/A
Module linked to Qualification/s:	MPharm in Public Health Pharmacy and Management		
Migration Strategy:	No	(If YES, Section G must also be completed)	

Rational Medicines Use and Monitoring	
Module Code: (4 alphabetic & 3 numeric)	PRMU927
Module Name:	Rational Medicines Use and Monitoring
Content:	Design and implement strategies and interventions for the rational use of medicines and the improvement of health services
Learning Outcomes:	Students will be able to: • Analyse the rational- and irrational use of medicines by all users within the medicines use cycle and pharmaceutical public health system. • Identify priorities, design strategies, implement and monitor interventions for the rational use of medicines.

<table>
<tr><td></td><td colspan="5">

Implement and evaluate the use of essential medicine lists and treatment guidelines and enhance the rational use of medicines through participation in all the activities of the PTC.
Design and implement pharmacovigilance and surveillance programmes for patient safety.
Illustrate how antimicrobial stewardship programmes and antibiotic policies are used to improve medicine use.
Apply the tools of medicine use evaluation to ensure rational medicine use within healthcare facilities.
Design and implement pharmaceutical care programmes in healthcare facilities.
Explore the extent of occurrence, prevention and reporting of the different types of medication errors within a healthcare facility
Design and implement strategies for the promotion and monitoring of adherence to antiretroviral and other chronic medicines.
Appraise effective and efficient infection control practices the process of infection control in a healthcare facility.
Analyse the management of health care waste and pharmaceutical waste according to the legal, policy and procedural framework.

</td></tr>
<tr><td rowspan="2">Module Information:</td><td>SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)</td><td colspan="2">ITS Course Level</td><td>CESM Code (3rd Order) (Six Numbers)</td></tr>
<tr><td>12</td><td colspan="2">9</td><td>091199</td></tr>
<tr><td rowspan="2">Delivery Information:</td><td colspan="2">Campus</td><td>Full/Part Time</td><td>Period (Year/1st/2ndSem)</td></tr>
<tr><td colspan="2">SMU</td><td>Contact - Full Time</td><td>Y</td></tr>
<tr><td rowspan="2">Periods per week:</td><td>Classes</td><td>Practicals</td><td>Tutorial</td><td>Seminars</td><td>Independent Learning</td></tr>
<tr><td></td><td></td><td>5</td><td>5</td><td>30</td></tr>
<tr><td>Pre-requisite modules for this module:</td><td colspan="5">None</td></tr>
<tr><td>Co-requisites modules for module:</td><td colspan="5">None</td></tr>
<tr><td>Assessment criteria</td><td colspan="5">

The rational- and irrational use of medicines by all users within the medicines use cycle and pharmaceutical public health system is analysed
Priorities for the rational use of medicines interventions are identified and strategies are designed
The ability to implement and monitor rational medicine use interventions is demonstrated
The ability to design and implement pharmacovigilance and surveillance programmes for patient safety is demonstrated
An effective antimicrobial stewardship programme and antibiotic policies are designed and the ability to implement these is demonstrated
Medicine use evaluation is used to ensure that medicines are used appropriately, safely and effectively
Essential medicine lists and treatment guidelines are implemented and evaluated and rational medicine use enhanced through participation in all the activities of the PTC.
Patient centred care is practiced where the pharmacist accepts responsibility for the patient's medicine related needs to ensure optimal outcomes of medicine therapy
Medication errors are identified, reported and prevented as an essential requirement for pharmaceutical care
Strategies for the promotion and monitoring of adherence to antiretroviral and other chronic medicines are designed and implemented
Effective and efficient infection control practices are applied in the provision of pharmaceutical services

</td></tr>
<tr><td></td><td colspan="5">

Health care and pharmaceutical waste is handled, disposed and destructed according to the legal, policy and procedural framework

</td></tr>
</table>

Assessment method			**Formative assessment:** Assignments; Oral presentations; Electronic assessments with MCQs **Summative assessment:** Written examination			
Mark Structure:	Minimum Form Assessment Mark for exam admission (%)		40%			
		% Formative Assessment Mark	60%			
		% Summative Assessment Mark	40%			
	Minimum final mark to pass (%)		50%			
Summative Assessment Paper:			**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical		Written Paper			
	Duration		3 hours			
	% contribution to Summative Assessment Mark		100			
	Sub minimum		40%			

SECTION A: HEQF INFORMATION REQUIRED		
A1	Full title of **the new** qualification.	Master of Pharmacy in Public Health Pharmacy and Management
A2	Abbreviation of the new title	MPharm (Public Health Pharmacy and Management)
A3	HEMIS qualification type of the new qualification.	73
A4	NQF exit level of the **new** qualification.	9
A5	Total credits for **the new** qualification as well as number of credits at each NQF level.	Total Credits : 240
		NQF Level 5 :
		NQF Level 6 :
		NQF Level 7 :
		NQF Level 8 :
		NQF Level 9 : 240
		NQF Level 10 :
A6	Designator for the **new** qualification (for degrees only).	09
A7	If designator is not Arts, Commerce, Science or Social Science, indicate with which first or second order CESM categories the proposed designator is consistent.	0911
A8	Qualifier 1 for **the new** qualification (state the field of specialisation).	091199 Pharmacy, Pharmaceutical Sciences and Administration, Other
A9	Qualifier 2 for **the new** qualification (If an optional 2nd qualifier is used state the field of specialisation).	
A10	Indicate in which second or third order CESM categories (a) Qualifier 1's field of specialisation falls, and (b) Qualifier 2's field of specialisation fall.	Qualifier 1: 091199
		Qualifier 2:
	Indicate what % of the curriculum for the **new** qualification falls	Qualifier 1: 100%

A11	into (a) Qualifier 1's field of specialisation, and (b) Qualifier 2's field of specialisation. Use the HEMIS credit values of courses for this calculation.	Qualifier 2:
A12	Indicate what % of the curriculum for the FINAL YEAR of the **new** qualification falls into (a) Qualifier 1's field of specialisation, and (b) Qualifier 2's field of specialisation. Use the HEMIS credit values of courses for this calculation.	Qualifier 1: 100% Qualifier 2:
A13	Indicate what the institute's minimum admission requirements for the **new** qualification are.	BPharm or relevant degree

SECTION B: HEMIS INFORMATION REQUIRED		
B1	HEMIS qualification type of **the new** qualification.	73
B2	Major fields of study by second or third order CESM category of **the new** qualification.	091199
B3	HEMIS course level of majors in final year of study of **the new** qualification.	46
B4	HEMIS minimum total time for **the new** qualification.	2
B5	HEMIS minimum experiential time for **the new** qualification.	N/A
B6	Total subsidy units for **the new** qualification.	1
B7	Funding level of the new qualification.	3
SECTION C: PQM INFORMATION REQUIRED		
C1	Indicate what the delivery mode of the **new** qualification is.	Contact
C3	Indicate on what campuses or sites of delivery the **new** qualification is offered.	Sefako Makgatho Health Sciences Information

SECTION D: ADDITIONAL INFORMATION REQUIRED						
D1	The qualification code of the **new** programme (Max 6 characters, e.g. BSCAGR)	MPPHPM				
D2	The minimum time of the **existing** programme	**Preparation**	**Total**	**Experiential**	**Formal**	**Research**
		NA				
D3	The minimum time of the **new** programme	**Preparation**	**Total**	**Experiential**	**Formal**	**Research**
		4	2	0	0.67	0.33
D4	The National Field and Subfield of Learning Codes of the **new** programme	**Field (Code)**		**Subfield (Code)**		
		09		091199; 091102		
D5	Minimum SAQA credits per year level in the **new** programme	**Level 1**	**Level 2**	**Level 3**	**Level 4**	
		112	128			
		Level 5	**Level 6**	**Level 7**	**Level 8**	

SECTION E: CURRICULUM INFORMATION REQUIRED

School:	School of Pharmacy	**Department**	Department of Public Health Pharmacy and Management
Qualification Name:	Master of Pharmacy in Public Health Pharmacy and Management	**Qualification Code:**	MPPHPM
Campus:	Sefako Makgatho Health Sciences University	**Last Revision date:**	NA
Total SAQA Credits for Qualification:	240	**Is this a fixed Curriculum:**	**Yes**
Once-off Implementation Year:	2021		

Migration Implementation Years:	**Year level 1:**	NA	**Year level 2:**		**Year level 3:**		**Year level 4:**	
	Year level 5:		**Year level 6:**		**Year level 7:**			

NEW PROGRAMME

PERIOD OF STUDY / YEAR LEVEL 1

Year Modules

X[1]	Module Code	Offering Period[2]	Possible major[3]	SAQA Credit	Hemis Credit[4]
	The following module/s are **COMPULSORY**				
X	PMLP911	Y	N	24	0.214
X	PIEB912	Y	N	24	0.214
X	PMSP925	Y	N	12	0.107
X	PMSD926	Y	N	12	0.107
X	PRMU927	Y	N	12	0.107
X	PPEC928	Y	N	12	0.107
X	PELE939	Y	N	16	0.143

TOTAL CREDITS FOR YEAR LEVEL 1	**112**	**1**

TOTAL CREDITS FOR QUALIFICATION	**240**	**2**

NEW PROGRAMME

PERIOD OF STUDY / YEAR LEVEL 2

Year Modules

X[1]	Module Code	Offering Period[2]	Possible major[3]	SAQA Credit	Hemis Credit[4]
	The following module/s are **COMPULSORY**				
X	PDIS940	Y	N	80	0.625
X	PMPS923	Y	N	20	0.156
X	PPPH924	Y	N	28	0.219

TOTAL CREDITS FOR YEAR LEVEL 2	**128**	**1**

TOTAL CREDITS FOR QUALIFICATION	**240**	**2**

MPHARM (RADIOPHARMACY)

SECTION A: HEQF INFORMATION REQUIRED			
A1	Full title of **existing** qualification.		
A2	Abbreviation of title.		
A3	Proposed **new** title of existing qualification	**Master of Pharmacy in Radiopharmacy**	
A4	Abbreviation of proposed new title	**MPharm (Radiopharmacy)**	
A5	HEMIS qualification type of **existing** qualification.		
A6	HEQF qualification type of **amended** qualification	**Professional Master's degree**	
A7	NQF exit level of **amended** qualification.	**Level 9**	
A8	Total credits for **amended** qualification as well as number of credits at each NQF level.	Total Credits : 240	
		NQF Level 5 :	
		NQF Level 6 :	
		NQF Level 7 :	
		NQF Level 8 :	
		NQF Level 9 : 240	
		NQF Level 10 :	
A9	Designator for **amended** qualification (for degrees only).	Pharmacy	
A10	If designator is not Arts, Commerce, Science or Social Science, indicate with which first or second order CESM categories the proposed designator is consistent.	09	
A11	Qualifier 1 for **amended** qualification (state the field of specialisation).	**Pharmacy, Pharmaceutical Sciences and Administration**	
A12	Qualifier 2 for **amended** qualification (If an optional 2nd qualifier is used state the field of specialisation).	**0911**	
A13	Indicate in which second or third order CESM categories (a) Qualifier 1's field of specialisation falls, and (b) Qualifier 2's field of specialisation fall.	Qualifier 1:	0911
		Qualifier 2:	091109
A14	Indicate what % of the curriculum for the **amended** qualification falls into (a) Qualifier 1's field of specialisation, and	Qualifier 1:	100%
		Qualifier 2:	80%

	(b) Qualifier 2's field of specialisation. Use the HEMIS credit values of courses for this calculation.	
A15	Indicate what % of the curriculum for the FINAL YEAR of the **amended** qualification falls into (a) Qualifier 1's field of specialisation, and (b) Qualifier 2's field of specialisation. Use the HEMIS credit values of courses for this calculation.	Qualifier 1: 100% Qualifier 2: 80%
A16	Indicate what the institute's minimum admission requirements for the **existing** qualification are.	
A17	Indicate what the institute's minimum admission requirements for the **amended** qualification will be.	BPharm
SECTION B: HEMIS INFORMATION REQUIRED		
B1	HEMIS qualification type of **existing** qualification.	
B2	HEMIS qualification type of **amended** qualification	Professional Master's degree
B3	Major fields of study by second or third order CESM category of **existing** qualification.	
B4	Major fields of study by second or third order CESM category of **amended** qualification.	091109
B5	HEMIS course level of majors in final year of study of **existing** qualification.	
B6	HEMIS course level of majors in final year of study of **amended** qualification	9
B7	HEMIS minimum total time for **existing** qualification.	
B8	HEMIS minimum total time for **amended** qualification	2 years
B9	HEMIS minimum experiential time for **existing** qualification.	
B10	HEMIS minimum experiential time for **amended** qualification.	
B11	Total subsidy units for **existing** qualification.	
B12	Total subsidy units for **amended** qualification	2
B13	Funding level of **existing** qualification.	
B14	Funding level of **amended** qualification	3
SECTION C: PQM INFORMATION REQUIRED		
C1	Explain how the **amended** qualification relates to the university's approved PQM. Is it: a) an existing qualification in a new cell of grid; b) an existing qualification in an approved cell but in a new second order CESM category; or c) a name change of an existing qualification.	a) an existing qualification in a new cell of grid

C2	Indicate if the **amended** qualification will be replacing any existing qualifications on the approved PQM and if so list these qualifications with expected end dates.	No
C3	Indicate what the delivery mode of the **existing** qualification is.	
C4	Indicate what the delivery mode of the **amended** qualification will be.	Contact – Full time
C5	Indicate on what campuses or sites of delivery the **existing** qualification is offered.	
C6	Indicate on what campuses or sites of delivery the **amended** qualification will be offered.	SMU

SECTION D: ADDITIONAL INFORMATION REQUIRED						
D1	The qualification code of the **existing** programme (Max 6 characters, e.g. BSCAGR)					
D2	The qualification code of the proposed **new** programme (Max 6 characters, e.g. BSCAGR)	MPharm (Radiopharmacy). New code to be provided				
D3	The minimum time of the **existing** programme	**Preparation**	**Total**	**Experiential**	**Formal**	**Research**
D4	The minimum time of the proposed **new** programme	**Preparation**	**Total**	**Experiential**	**Formal**	**Research**
			2	0	1	1
D5	The National Field and Subfield of Learning Codes of the **existing** programme	**Field (Code)**		**Subfield (Code)**		
D6	The National Field and Subfield of Learning Codes of the proposed **new** programme	**Field (Code)**		**Subfield (Code)**		
		0900		0911		
D7	Minimum SAQA credits per year level in the **existing** programme	**Level 1**	**Level 2**	**Level 3**	**Level 4**	
		Level 5	**Level 6**	**Level 7**	**Level 8**	
D8	Minimum SAQA credits per year level in the proposed **new** programme	**Level 1**	**Level 2**	**Level 3**	**Level 4**	
		158	82			
		Level 5	**Level 6**	**Level 7**	**Level 8**	

MODULAR INFORMATION						
Department:				**School:**	Pharmacy	
Last Revision date:	N/A		**First Year Offered (New):**	2021		
Replace this Module existing module(s)?	**N/A**		**If YES, give the module codes:**			
Module linked to Qualification/s:						
Migration Strategy:	**N/A**	(If YES, Section G must also be completed)				

Pharmaceutical Care, Laboratory Tests and Pharmacokinetics					
Module Code: (4 alphabetic & 3 numeric)	**MPLP090**				
Module Name:	Pharmaceutical Care, Laboratory Tests and Pharmacokinetics				
Content:	Formulate pharmaceutical care plans and interpret prescriptions to guide treatment for individual patients. Counsel patients to improve treatment outcomes. Use clinical information, laboratory and diagnostic tests and results to assist with, or support, therapeutic assessments and decisions. Apply basic and clinical pharmacokinetics and pharmacodynamics for individualised patient care				
Learning Outcomes:	1. The pharmaceutical care concept is defined. 2. A patient medical chart is evaluated 3. Pharmacist's' care plans are planned, constructed and interventions are recommended. 4. Normal/reference ranges for commonly used tests should be described, analysed, reviewed and applied 5. Possible aetiology of, and pathology related to, clinical laboratory results which are outside these ranges should be appraised and explained 6. Clinical laboratory test results on medicine therapy of individual patients should be interpreted and applied 7. Individualized dosing calculations including loading dose, maintenance dose and dosing intervals when appropriate patient information is interpreted (e.g. clearance, volume of distribution and half-life). 8. Patient disease state and the interpretation of laboratory values and its influence on medicine therapy should be evaluated, interpreted and discussed				
Module Information:	**SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)**		**ITS Course Level**		**CESM Code (3rd Order) (Six Numbers)**
	6		9		091108
Delivery Information:	**Campus**		**Full/Part Time**		**Period (Year/1st/2ndSem)**
	SMU		Contact – Full time		Year
Periods per week*:	**Classes**	**Practicals**	**Tutorial**	**Seminars**	**Independent Learning**
	1	0.25			0.5
Pre-requisite modules for this module:	None				

Co-requisites modules for module:			None			
Assessment criteria			1. Define, review, appraise and evaluate the pharmaceutical care concept against the patients' medical and/or surgical history. 2. Evaluate the patient's medical chart. 3. Construct, described, categorize and appraise the patient's drug therapy problem list 4. Plan and construct a pharmacist care plan and provide interventions where necessary 5. Describe, analyse, review and apply normal/reference ranges for commonly used test. 6. Appraise and explain clinical laboratory results which are outside the ranges. 7. Interpret and apply the impact of the aetiology of, or pathology related to, clinical laboratory test results on medicine therapy of individual patients 8. Explain pharmacokinetic, and pharmacodynamics definitions and terminology. 9. Calculate individualised dosing calculations including loading dose, maintenance dose and dosing intervals when appropriate patient information is interpreted (e.g. clearance, volume of distribution and half-life). 10. Manage disease states using appropriate blood levels and interpret to make appropriate recommendations.			
Assessment method			Assignments, Written paper			
Mark Structure:	Minimum Form Assessment Mark for exam admission (%)		40%			
		% Formative Assessment Mark	60%			
		% Summative Assessment Mark	40%			
	Minimum final mark to pass (%)		50%			
Summative Assessment Paper:			**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical		Written paper	Assignment	Assignment	
	Duration		3 hours	N/A	N/A	
	% contribution to Summative Assessment Mark		50%	25%	25%	
	Sub minimum		40%	40%	40%	

Radiopharmacology, Radiopharmaceutics and Radiochemistry						
Module Code: (4 alphabetic & 3 numeric)			**MRRR090**			
Module Name:			Radiopharmacology, Radiopharmaceutics and Radiochemistry			
Content:			Apply scientific knowledge in Radiopharmacy services			
Learning Outcomes:			Explain radiation theory and medical physics instrumentation Describe production and properties of radionuclides Explain radiopharmaceutical localisation, mode of action, half-life and dosimetry. Describe and demonstrate aseptic preparation and quality control or radiopharmaceuticals			
Module Information:			**SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)**	**ITS Course Level**	**CESM Code (3rd Order) (Six Numbers)**	
			40	9	091109	
Delivery Information:			**Campus**	**Full/Part Time**	**Period (Year/1st/2ndSem)**	
			SMU	Contact – Full time	Year	
Periods per week*:			**Classes**	**Practicals**	**Tutorial**	**Seminars**	**Independent Learning**
			1.5	1.5	1.5	0.25	3.75
Pre-requisite modules for this module:			None			
Co-requisites modules for module:			None			
Assessment criteria			Discuss the role of Radiopharmacy in Nuclear Medicine in diagnosis and therapy. Radiochemistry: Describe and explain production of radionuclides (natural, reactor, cyclotron, generators). Explain properties of commonly-used diagnostic and therapeutic radionuclides, their chemistry and the principles of the use of ligands and chelating agents. Radiopharmacology: Explain the localisation and mode of action of common radionuclides and radiopharmaceuticals, physical and biological half-life and dosimetry. Radiopharmaceutics: Explain and demonstrate aseptic radiolabelling techniques and quality control for radiopharmaceuticals.			
Assessment method			Written Case study reports, Assignments			
Mark Structure:	Minimum Form Assessment Mark for exam admission (%)					
		% Formative Assessment Mark				
		% Summative Assessment Mark	100%			
	Minimum final mark to pass (%)		50%			

Summative Assessment Paper:		**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical	Case studies	Assignment	Assignment	
	Duration	N/A	N/A	N/A	
	% contribution to Summative Assessment Mark	20%	40%	40%	
	Sub minimum	50%	50%	50%	

<table>
<tr><th colspan="6">Practice of Radiopharmacy</th></tr>
<tr><td>Module Code: (4 alphabetic & 3 numeric)</td><td colspan="5">MPOR090</td></tr>
<tr><td>Module Name:</td><td colspan="5">Practice of Radiopharmacy</td></tr>
<tr><td>Content:</td><td colspan="5">Production/preparation safe handling, quality control and management of radiopharmaceuticals and the radiopharmacy.</td></tr>
<tr><td>Learning Outcomes:</td><td colspan="5">1. Promote safe handling of radiation sources and radiopharmaceuticals in compliance with relevant South African legislation
2. Institute quality management in radiopharmacy according to current Good Radiopharmacy Practice (cGRPP) and in compliance with Good Manufacturing Practice in radiopharmaceutical production
3. Produce, procure, distribute and dispose of radiopharmaceuticals according to cGRPP and in compliance with GMP in radiopharmaceutical production
4. Compound and dispense radiopharmaceuticals, radiolabelled blood elements, biologicals and other novel radiopharmaceutical dosage forms according to GPP, cGRPP and recognised international standards and applicable legislation.
5. Conduct and monitor quality management for radiopharmaceuticals and instrumentation in the radiopharmacy.</td></tr>
<tr><td rowspan="2">Module Information:</td><td colspan="2">SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)</td><td colspan="2">ITS Course Level</td><td>CESM Code (3rd Order) (Six Numbers)</td></tr>
<tr><td colspan="2">38</td><td colspan="2">9</td><td>091109</td></tr>
<tr><td rowspan="2">Delivery Information:</td><td colspan="2">Campus</td><td colspan="2">Full/Part Time</td><td>Period (Year/1st/2ndSem)</td></tr>
<tr><td colspan="2">SMU</td><td colspan="2">Contact – Full time</td><td>Year</td></tr>
<tr><td rowspan="2">Periods per week*:</td><td>Classes</td><td>Practicals</td><td>Tutorial</td><td>Seminars</td><td>Independent Learning</td></tr>
<tr><td>0.5</td><td>3</td><td>3.2</td><td>1.4</td><td>1</td></tr>
<tr><td>Pre-requisite modules for this module:</td><td colspan="5">None</td></tr>
<tr><td>Co-requisites modules for module:</td><td colspan="5">None</td></tr>
<tr><td>Assessment criteria</td><td colspan="5">5. Explain and apply legislation relevant to radiopharmacy services in the South African context.
6. Discuss and apply local and international guidelines relevant to the production, distribution, use and disposal of radionuclides and radiopharmaceutical products.
7. Describe and demonstrate the principles of the “as low as reasonably achievable” (ALARA) concept and the importance of distance, shielding and time in radiation protection and radiation exposure limits.
8. Demonstrate the practical implementation of radiation protection principles.
9. Introduce and maintain a quality management system.
10. Design and implement environmental requirements for a radiopharmacy, including choice, operation and maintenance requirements of laminar flow hoods and isolators.
11. Undertake facility inspections and audits.
12. Prepare, apply and monitor standard operating procedures (SOPs) for radiopharmacy processes.
13. Assure radiopharmacy equipment calibration and implement maintenance and cleaning programmes.
14. Complete documents and maintain and review records in accordance with applicable legislation and SOPs.
15. Discuss the role of international organisations in training and standards.</td></tr>
</table>

<table>
<tr><td colspan="3"></td><td colspan="4">16. Describe the GMP approach for radiopharmaceuticals and explain validation processes.
17. Describe the legislative status of key radiopharmaceuticals and radionuclides.
18. Explain and apply the production principles of radiopharmaceuticals in nuclear reactors, cyclotrons and generators.
19. Order, receive, store and maintain the inventory of radiopharmaceuticals, ancillary drugs, supplies and related materials according to cGRPP.
20. Distribute radiopharmaceuticals to the user according to cGRPP (packaging, labelling and transport).
21. Conduct radionuclide and radiopharmaceutical waste management according to current South African legislation and cGRPP.
22. Manage the ordering of and record-keeping for Section 21 radiopharmaceuticals.
23. Compound radiopharmaceuticals according to GPP and cGRPP. Perform generator elution, kit reconstitution, preparation of products not commercially available and other radiolabeling procedures.
24. Dispense radiopharmaceuticals according to GPP and cGRPP, including evaluation of the prescription, preparation of bulk vials or individual patient doses for delivery to the user and prepare and reconstitute cold kits.
25. Blood products: Prepare radiolabelled red and white cells and other blood elements according to local or ISORBE protocols.
26. Compound, manipulate and prepare sterile admixtures according to SOPs, in accordance with aseptic techniques and principles of GMP and/or GPP.
27. Appraise sterilisation methods for commonly used radiopharmaceuticals.
28. Manage radiopharmacy cleaning programmes so that sources and risks of microorganism contamination are reduced.
29. Manage record systems for radiopharmaceutical preparations produced in accordance with legal requirements and organisational policies and procedures. Describe in detail the principles of radiopharmacy quality management in hospitals and in production facilities.
30. Conduct functional checks of instruments, equipment and devices.
31. Determine radiopharmaceutical quality and purity requirements for radionuclidic, radiochemical and chemical purity.
32. Evaluate and ensure particle size, sterility and apyrogenicity of radiopharmaceuticals.
33. Ensure completion and filing of appropriate records in accordance with cGRPP.</td></tr>
<tr><td colspan="3">Assessment method</td><td colspan="4">Practical Log and Portfolio of Evidence</td></tr>
<tr><td rowspan="4">Mark Structure:</td><td colspan="2">Minimum Form Assessment Mark for exam admission (%)</td><td colspan="4"></td></tr>
<tr><td rowspan="2"></td><td>% Formative Assessment Mark</td><td colspan="4"></td></tr>
<tr><td>% Summative Assessment Mark</td><td colspan="4">100%</td></tr>
<tr><td colspan="2">Minimum final mark to pass (%)</td><td colspan="4">50%</td></tr>
<tr><td rowspan="4">Summative Assessment Paper:</td><td></td><td>Paper 1</td><td>Paper 2</td><td>Paper 3</td><td>Paper 4</td></tr>
<tr><td>Theory/practical</td><td>Practical Log and Portfolio of Evidence</td><td></td><td></td><td></td></tr>
<tr><td>Duration</td><td>N/A</td><td></td><td></td><td></td></tr>
<tr><td>% contribution to Summative Assessment Mark</td><td>100%</td><td></td><td></td><td></td></tr>
<tr><td>Sub minimum</td><td>50%</td><td></td><td></td><td></td></tr>
</table>

<table>
<tr><th colspan="7">Medical Physics for Radiopharmacy</th></tr>
<tr><td colspan="2">Module Code: (4 alphabetic & 3 numeric)</td><td colspan="5">MMPR090</td></tr>
<tr><td colspan="2">Module Name:</td><td colspan="5">Medical Physics for Radiopharmacy</td></tr>
<tr><td colspan="2">Content:</td><td colspan="5">Basic nuclear medicine physics
Radioactivity
Radiation detection systems
Nuclear counting instruments and counting statistics
Nuclear medicine imaging using gamma scintillation camera
Use of computers in nuclear medicine
Tracer kinetic studies
Radiopharmaceuticals and quality control
Internal dosimetry
Radiation protection in nuclear medicine
PET/ SPECT/ CT as special imaging devices
Clinical studies
Requirements for the safe use of unsealed radioactive nuclides</td></tr>
<tr><td colspan="2">Learning Outcomes:</td><td colspan="5">1. Able to describe the scientific knowledge and skills of physics principles applied in nuclear medicine
2. Understand the fundamental principles of radiation applications in nuclear medicine
3. Understand the safety features and principles
4. Explain the radiation doses to matter due to nuclear medicine radiation exposures
5. Be able to describe the functionality of imaging systems</td></tr>
<tr><td colspan="2" rowspan="2">Module Information:</td><td colspan="2">SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)</td><td colspan="2">ITS Course Level</td><td>CESM Code (3rd Order) (Six Numbers)</td></tr>
<tr><td colspan="2">34</td><td colspan="2">7</td><td>091109</td></tr>
<tr><td colspan="2" rowspan="2">Delivery Information:</td><td colspan="2">Campus</td><td colspan="2">Full/Part Time</td><td>Period (Year/1st/2ndSem)</td></tr>
<tr><td colspan="2">SMU</td><td colspan="2">Contact – Full time</td><td>Year</td></tr>
<tr><td colspan="2" rowspan="2">Periods per week*:</td><td>Classes</td><td>Practicals</td><td>Tutorial</td><td>Seminars</td><td>Independent Learning</td></tr>
<tr><td></td><td>1.25</td><td>1.8</td><td></td><td>2.5</td></tr>
<tr><td colspan="2">Pre-requisite modules for this module:</td><td colspan="5">None</td></tr>
<tr><td colspan="2">Co-requisites modules for module:</td><td colspan="5">None</td></tr>
<tr><td colspan="2">Assessment criteria</td><td colspan="5">The candidate must:
• demonstrate scientific specialist knowledge and skills of physics principles applied in nuclear medicine
• understand the fundamental principles of radiation applications in nuclear medicine
• demonstrate awareness of the safety features and principles using radionuclide imaging
• be able to calculate the radiation doses to matter due to nuclear medicine radiation exposures</td></tr>
<tr><td colspan="2">Assessment method</td><td colspan="5">Written tests, Written examination</td></tr>
<tr><td rowspan="2">Mark Structure:</td><td colspan="2">Minimum Form Assessment Mark for exam admission (%)</td><td colspan="5">40%</td></tr>
<tr><td></td><td>% Formative Assessment Mark</td><td colspan="5">60%</td></tr>
</table>

		% Summative Assessment Mark	40%			
	Minimum final mark to pass (%)		50%			
Summative Assessment Paper:			**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical		Theory			
	Duration		3			
	% contribution to Summative Assessment Mark		50%			
	Sub minimum		50			

Module Code: (4 alphabetic & 3 numeric)	**MNMR090**				
Module Name:	Nuclear Medicine for Radiopharmacy				
Content:	Appropriate radiopharmaceutical choice and use in Nuclear Medicine in routine diagnostic and therapeutic use as well as in clinical studies				
Learning Outcomes:	Monitor and promote diagnostic accuracy and successful treatment outcomes as an active member of the nuclear medicine team. The range of conditions includes but is not limited to disorders and diseases, commonly seen in Nuclear Medicine, of the following systems: • Cardiovascular • Central Nervous System • Endocrine • Gastrointestinal • Hepatobiliary • Lymphatic • Pulmonary • Renal • Skeletal Act as part of a multidisciplinary team to provide information and consultation on radiopharmaceuticals and *Good Radiopharmacy Practice* and in clinical trials.				
Module Information:	**SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)**		**ITS Course Level**		**CESM Code (3rd Order) (Six Numbers)**
	40		9		091108
Delivery Information:	**Campus**		**Full/Part Time**		**Period (Year/1st/2ndSem)**
	SMU		Contact – Full time		Year
Periods per week*:	**Classes**	**Practicals**	**Tutorial**	**Seminars**	**Independent Learning**
	2.5	1.25			5
Pre-requisite modules for this module:	None				
Co-requisites modules for module:	None				

Assessment criteria			1. Describe the pathophysiology of key disease states seen in nuclear medicine. 2. Explain the mode of action of common radionuclides and radiopharmaceuticals. 3. Analyse the rationale for the choice of specific radiopharmaceuticals in common conditions (disease or suspected diagnosis, age and gender of the patient, contra-indications, radio-pharmaceutical availability and cost-containment issues). 4. Evaluate patient preparation with regard to prevention or recognition of drug or food interactions before radiopharmaceutical administration. 5. Appraise the administration and clinical use of commonly used radionuclides and radio-pharmaceuticals. 6. Demonstrate active participation in decision-making in the nuclear medicine team. 7. Communicate radiopharmacy information (e.g. teaching, policies and procedures for the care of specific patients) to members of the healthcare team. 8. Record, identify and address radiopharmaceutical causes of scintigraphic anomalies. 9. Explain and demonstrate clinical trial methodology and *Good Clinical Practice*.			
Assessment method			Written test and examination			
Mark Structure:	Minimum Form Assessment Mark for exam admission (%)					
		% Formative Assessment Mark				
		% Summative Assessment Mark	100%			
	Minimum final mark to pass (%)		50%			
Summative Assessment Paper:			**Paper 1**	**Paper 2**	**Paper 3**	**Paper 4**
	Theory/practical		Written paper			
	Duration		2 hours			
	% contribution to Summative Assessment Mark		100%			
	Sub minimum		50%			

Radiopharmacy Research Mini Dissertation			
Module Code: (4 alphabetic & 3 numeric)	**MPMD090)**		
Module Name:	Radiopharmacy Research Mini Dissertation		
Content:	Conduct research and prepare for publication in the field of Radiopharmacy		
Learning Outcomes:	Research may include, but is not limited to, the following areas: Development of new radiopharmaceuticals, Laboratory testing of radiopharmaceuticals, Compounding procedures, Quality assurance or quality control methods, Clinical use of radiopharmaceuticals, Radiopharmaceuticals management		
Module Information:	**SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)**	**ITS Course Level**	**CESM Code (3rd Order) (Six Numbers)**
	72	9	091108

Delivery Information:			Campus		Full/Part Time		Period (Year/1st/2ndSem)
			SMU		Contact – Full time		Year
Periods per week*:			Classes	Practicals	Tutorial	Seminars	Independent Learning
			1.5	4.25	3	0.5	5
Pre-requisite modules for this module:			None				
Co-requisites modules for module:			None				
Assessment criteria			1. Critically evaluate information sources, literature and research on medicines and practices in terms of evidence for decision-making and implementation in practice. 2. Apply the principles of research methodology in the development of a research protocol. Obtain ethical clearance if necessary. 3. Conduct research in accordance with established research methodology and ethics, as well as Good Clinical Practice where necessary. 4. Analyse data, interpret findings and/or results and formulate conclusions and recommendations. 5. Write and submit a technical report, manuscript for publication or minor dissertation based on the research outcomes and obtain approval.				
Assessment method			Assessment of a technical report, manuscript for publication or minor dissertation based on the research outcomes				
Mark Structure:	Minimum Form Assessment Mark for exam admission (%)						
		% Formative Assessment Mark					
		% Summative Assessment Mark	100%				
	Minimum final mark to pass (%)		50%				

Summative Assessment Paper:		Paper 1	Paper 2	Paper 3	Paper 4
	Theory/practical	Minor dissertation			
	Duration	N/A			
	% contribution to Summative Assessment Mark	100%			
	Sub minimum	50%			

Radiopharmacy Specific Elective	
Module Code: (4 alphabetic & 3 numeric)	**MRSE090**
Module Name:	Radiopharmacy Specific Elective
Content:	

Learning Outcomes:	Report on an elective topic. Topics for electives may include but are not limited to: • Hospital radiopharmacy • Radiopharmaceutical manufacture, production or compounding • Radiopharmaceutical clinical trials • Regulation of radiopharmaceuticals					
Module Information:	**SAQA Credits (4; 8; 12; 16; 20; 24; 28;32)**		**ITS Course Level**		**CESM Code (3rd Order) (Six Numbers)**	
	10		9		091108	
Delivery Information:	**Campus**		**Full/Part Time**		**Period (Year/1st/2ndSem)**	
	SMU		Contact – Full time		Year	
Periods per week*:	**Classes**	**Practicals**	**Tutorial**	**Seminars**	**Independent Learning**	
				0.25	1.75	
Pre-requisite modules for this module:	None					
Co-requisites modules for module:	None					
Assessment criteria	Demonstrate extensive knowledge of the chosen elective field of clinical pharmacy, for transition to independent practice.					
Assessment method	Written report.					
Mark Structure: Minimum Form Assessment Mark for exam admission (%)						
% Formative Assessment Mark						
% Summative Assessment Mark	100%					
Minimum final mark to pass (%)	50%					

		Paper 1	**Paper 2**	**Paper 3**	**Paper 4**
Summative Assessment Paper:	Theory/practical	Written report			
	Duration	N/A			
	% contribution to Summative Assessment Mark	100%			
	Sub minimum	50%			

DOCTOR OF PHARMACY (DPHA01)

	Pharmacy mini-thesis	**Credits:216**
Lectures per week	**Independent learning**	
	27	
Content:	Advanced research leading to the submission, assessment and acceptance of a research component comprising a mini-thesis or another form or research that is commensurate with the nature of the discipline or field and the specific area of enquiry.	
Learning Outcomes:	To demonstrate a high level of research and practice capability	
Assessment Criteria:	The candidate must be able to demonstrate the ability to perform advanced research and practice leading to the submission, assessment and acceptance of a research and practice component comprising a mini-thesis or another form of presentation that is commensurate with the nature of the discipline or field and the specific area of enquiry.	
Mark Structure:	Minimum continuous assessment mark for examination admission: 40% Final Mark: 60% continuous assessment mark + 40% summative assessment mark Minimum final mark: 50%	

Summative Assessment:		**Paper 1**
	Theory / Practical	Mini-thesis
	Duration	
	% contribution to Summative Assessment Mark	100%
	Sub minimum	50%

	Elective Advanced Practice in Clinical Pharmacokinetics			**Credits: 144**
Lectures per week	**Practicals**	**Tutorials**	**Classes**	**Independent learning**
10	1	1	1	7
Content:	Integrate pharmacokinetic and pharmacodynamics theory with practice through the application of theoretical knowledge to highly complex problems in a wide range of clinical conditions. Apply pharmacokinetic and pharmacodynamics principals of different medicines in developing and recommending different dosing strategies in a wide range of clinical conditions. Apply therapeutic medicine monitoring in recommending optimal medicine dosing.			
Learning Outcomes:	To demonstrate the ability to integrate theory with practice through the application of pharmacokinetic and pharmacodynamics knowledge to highly complex problems in a wide range of clinical conditions. To demonstrate the ability to apply therapeutic medicine monitoring to a wide range of medicines.			
Assessment Criteria:	The candidate must be able to demonstrate the ability to integrate pharmacokinetic and pharmacodynamics theory with practice in recommending dosing strategies in a wide range of clinical conditions.			
Mark Structure:	Minimum formative assessment mark for examination admission: 40% Final Mark: 60% formative assessment mark + 40% summative assessment mark Minimum final mark: 50%			

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3	3
	% contribution to Summative Assessment Mark	50%	50%
	Sub minimum	50%	50%

	Elective Advanced Practice in Clinical Pharmacy			Credits: 144
Lectures per week	**Practicals**	**Tutorials**	**Classes**	**Independent learning**
10	1	1	1	7
Content:	Integrate theory with advanced practice in clinical pharmacy through the application of theoretical and practical knowledge to highly complex problems in a wide range of clinical conditions.			
Learning Outcomes:	To demonstrate the ability to integrate theory with practice through the application of clinical pharmacy knowledge to highly complex problems in a wide range of clinical conditions. To demonstrate the ability to apply pharmaceutical care and monitor medicine use to a wide range of clinical conditions.			
Assessment Criteria:	The candidate must be able to demonstrate the ability to integrate theory with practice through the application of theoretical and practical knowledge to highly complex problems in a wide range of clinical pharmacy applications.			
Mark Structure:	Minimum formative assessment mark for examination admission: 40% Final Mark: 60% formative assessment mark + 40% summative assessment mark Minimum final mark: 50%			

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3	3
	% contribution to Summative Assessment Mark	50%	50%
	Sub minimum	50%	50%

	Elective Advanced Practice Industrial Pharmacy			Credits: 144
Lectures per week	**Practicals**	**Tutorials**	**Classes**	**Independent learning**
10	1	1	1	7
Content:	Integrate theory with practice through the application of theoretical and practical knowledge to highly complex problems in a wide range of applications in industrial pharmacy			
Learning Outcomes:	To demonstrate the ability to integrate theory with industrial pharmacy practice through the application of theoretical and practical knowledge to highly complex problems in a wide range of industrial pharmacy applications			
Assessment Criteria:	The candidate must be able to demonstrate the ability to integrate theory with industrial pharmacy practice through the application of theoretical and practical knowledge to highly complex problems in a wide range of industrial pharmacy applications.			
Mark Structure:	Minimum formative assessment mark for examination admission: 40% Final Mark: 60% formative assessment mark + 40% summative assessment mark Minimum final mark: 50%			

Summative Assessment:		**Paper 1**	**Paper 2**
	Theory / Practical	Theory	Practical
	Duration	3	3
	% contribution to Summative Assessment Mark	50%	50%
	Sub minimum	50%	50%

	Elective Advanced Practice in Public Health Pharmacy and Management			Credits: 144
Lectures per week	**Practicals**	**Tutorials**	**Classes**	**Independent learning**
10	1	1	1	7
Content:	Integrate theory with practice through the application of theoretical and practical knowledge in public health pharmacy and management to highly complex problems in a wide range of public health pharmacy and management.			
Learning Outcomes:	To demonstrate the ability to integrate theory with practice through the application of theoretical and practical knowledge to highly complex problems in a wide range of public health pharmacy and management.			
Assessment Criteria:	The candidate must be able to demonstrate the ability to integrate theory with practice through the application of theoretical and practical knowledge to highly complex problems in a wide range of public health pharmacy and management.			
Mark Structure:	Minimum formative assessment mark for examination admission: 40% Final Mark: 60% formative assessment mark + 40% summative assessment mark Minimum final mark: 50%			
Summative Assessment:			**Paper 1**	**Paper 2**
	Theory / Practical		Theory	Practical
	Duration		3	3
	% contribution to Summative Assessment Mark		50%	50%
	Sub minimum		50%	50%

	Elective Advanced Practice in Radiopharmacy			Credits: 144
Lectures per week	**Practicals**	**Tutorials**	**Classes**	**Independent learning**
10	1	1	1	7
Content:	Integrate theory with practice through the application of theoretical and practical knowledge of radiopharmacy to highly complex problems in a wide range of radiopharmacy applications.			
Learning Outcomes:	To demonstrate the ability to integrate theory with radiopharmacy practice through the application of theoretical and practical knowledge to highly complex problems in a wide range of radiopharmacy applications.			
Assessment Criteria:	The candidate must be able to demonstrate the ability to integrate radiopharmacy theory with practice through the application of theoretical and practical knowledge to highly complex problems in a wide range of radiopharmacy applications.			
Mark Structure:	Minimum formative assessment mark for examination admission: 40% Final Mark: 60% formative assessment mark + 40% summative assessment mark Minimum final mark: 50%			
Summative Assessment:			**Paper 1**	**Paper 2**
	Theory / Practical		Theory	Practical
	Duration		3	3
	% contribution to Summative Assessment Mark		50%	50%
	Sub minimum		50%	50%

ALL CORRESPONDENCE TO BE ADDRESSED TO: THE DEAN
Telephone:+27 (0) 12 521 5866 / +27 (0) 12 521 4745
E-mail: simagele.mahlangu@smu.ac.za / washington.masia@smu.ac.za
Pharmacy Building