

Bachelor of Pharmacy (BPharm) – SC403 (Under Review)

1. Specific Titles

Bachelor of Pharmacy (BPharm) – 8 semesters FT (Theory & Practical Training)

Special Note

The four-year BPharm programme leads to a **Bachelor of Pharmacy** and is designed to be a professional undergraduate course, like the BSc (Hons) Biomedical Sciences programmes, the BSc Hons Occupational Therapy and the BSc Hons Physiotherapy currently run by the Department of Health Sciences. Accordingly, the degree of flexibility will differ from most BSc (Hons) Programmes being run by the Faculty. All modules are compulsory and assessment methods will be specific to the modules.

The programme design has taken into account the minimum requirements for the training and education of Pharmacists set by the UK Quality Assurance Agency subject benchmark for award of a Pharmacy degree. The BPharm here, like in all UK pharmacy degree courses, is a 4 year full-time extended undergraduate degree, hence equivalent to a Master of Pharmacy classified honours award in UK.

In addition to the successful completion of the four-year full-time theory and practical training, BPharm graduates will need to satisfy any other prevailing requirements of the Mauritius Pharmacy Board to obtain professional registration as a pharmacist in Mauritius

2. Objectives

Pharmacy integrates the main strands of the chemical and biological sciences which relate to medicines and combines these sciences with all the related aspects of health care for the benefit of patients. Pharmacy is also concerned with the provision of evidence-based advice to patients and the public on general health matters. Pharmacists are scientists in the health care community, bringing together physical, biological, clinical, social and behavioural sciences in relation to medicines and their usage.

Pharmacists are the legal and physical guardians of an enormous range of valuable, potent and potentially dangerous substances. They are thus expected to have impeccable standards with a thorough knowledge of relevant law, ethics and codes of practice.

This Pharmacy degree, as recommended by the QAA, has been designed to produce graduates who can think clearly and systematically with a strong vocational element. It addresses the themes and concepts underpinning pharmacy education. Graduates will have a strong academic science base and will be competent pharmaceutical scientists and well prepared for a role in health care.

The practice of pharmacy continues to develop a multi-disciplinary character and evolve. Pharmacy practice now comprises or includes managing medicines at a strategic as well as an individual patient level, the management of repeat dispensing systems, supplementary prescribing, monitoring the effects of medicines and specialisations such as independent prescribing and diagnostic testing.

Pharmacists require a sufficient knowledge and comprehensive understanding of the clinical features and general medical management of diseases, including non-medicine management. They must also have a profound knowledge of the actions and uses of medicines. In addition, all pharmacists are expected to have a basic understanding of the physical and chemical properties of the materials that go into the medicines they handle, drug manufacture and formulation in order to ensure safe and effective usage.

Furthermore, pharmacists are also expected to be skilled in management and information technology. The widespread use of computer systems in dispensing ensures that medicine interactions, overdoses and incompatibilities are readily detected, allowing pharmacists more time to give advice to patients and other health care professionals. In addition, they must know where to find and how to assess information quickly and reliably.

In the community, pharmacists are responsible for dispensing prescriptions while ensuring that they are legal and appropriate for the patient, for counseling and educating patients on the best use of medicines and responding to their symptoms, for promotion of good health and ensuring self-care and for medication review.

In hospitals, pharmacists have a clinical appraisal function and are a major source of information on medicines. They are expected to provide prompt advice to other professionals and to develop treatment protocols.

This BPharm course has been designed to equip graduates with all the basic training and professional needs outlined above and required of a Pharmacist for general practice, including good communication and interpersonal skills and commitment to ethical and social responsibility. Graduates will be expected to be analytical, critically aware, evaluative, interpretative, empathic and reflective in their approach.

The breadth and multi-disciplinary character of the pharmacy degree, along with the ever-changing nature of pharmaceutical services gives a central role to pharmacists for research into the discovery, characterisation, formulation, administration and therapeutic activity of medicines. Pharmacists are therefore expected to play a leading role in research into the safe and economically responsible use of medicine in practice. The fourth year of study is specifically designed to meet the research, administrative and management needs of the profession. The 'Dispensing Practice' throughout the course duration will provide the opportunity for translation of theoretical knowledge into hands-on practice of immediate relevance and will further help students in acquiring professional competence.

The sharing of some common modules with other Health programmes run by the Department of Health Sciences is in line with the prevailing Primary Health Care Philosophy. For these shared modules, the core content will be identical and the specificity of individual professions will be addressed by specific tutorials run by practicing members of the respective professions.

The programme being proposed is a very wide-reaching programme, open to private candidates as well as in-service trainees from various Ministries, Non-Governmental Organisations and Private Organisations. Graduates with this degree can practice as pharmacists in hospital and retail pharmacies following registration with the Pharmacy Board, join the pharmaceutical industry, the academic profession or pursue further studies.

3. Programme Requirements

Credit in at least five subjects (School Certificate) including English, Biology, Mathematics, Physics and Chemistry.

GCE Advanced Level passes (or equivalent) in Mathematics, Chemistry and either Physics or Biology. Minimum grades should be three Cs or a total 'A' level mark of 18.

Foundation courses in Physics and Biology will be offered and examined prior to the start of the programme. Students must successfully complete any required Foundation courses before being eligible to join the programme.

Students having successfully completed the Pharmacy Technician Diploma at the University of Mauritius will be eligible for entry into Year 3 of this programme provided they hold GCE Advanced level passes (or equivalent) in a minimum of two subjects.

Students having successfully completed part of a BPharm degree or equivalent elsewhere may apply for entry in a relevant year of the programme, but will get no exemptions from that year or subsequent years of this BPharm degree. Students may be required to take specific modules from previous years as applicable on a case to case basis.

4. Programme Breakdown and Duration

	Normal	Maximum
Pharmacy Technician Diploma (Theory and Practical)	4 semesters (2 yrs)	8 semesters (4 yrs)
BPharm - Full-Time (Theory and Practical)	8 semesters (4 yrs)	12 semesters (6 yrs)

The programme allows for an exit point at Diploma level (Pharmacy Technician Diploma) as indicated above.

5. **Semester:** 15 Weeks (Excluding Exam Period)
6. **Credit System:** 15 hours of lectures and/or tutorials - 1 credit
30 hours of practicals - 1 credit
7. **Credits per Semester:** Minimum 9 credits subject to regulation 5 above.
8. **Specifications**

Professional Practice in the form of dispensing practice in hospital and/or other public/private pharmacies will form an essential part of the professional programme. Professional practice will be undertaken for a 6 hrs/week (preferably Saturdays) in all of the 15 weeks of each of Semesters 1 to 8 (i.e. 90 hrs of Professional practice per Semester). A formal agreement will need to be worked out with participating pharmacies for students to use existing facilities for Professional Practice. Formal lectures/tutorials/practicals will be scheduled over the rest of the week as per programme structure.

STUDENTS MUST PASS ALL PROFESSION-RELATED MODULES OFFERED IN A GIVEN YEAR IN ORDER TO PROCEED TO THE FOLLOWING YEAR.

STUDENTS MUST PASS ALL MODULES OFFERED TO BE AWARDED THE PHARMACY TECHNICIAN DIPLOMA or the BPHARM DEGREE.

9. Assessment

9.1 Continuous and Written Assessment of Modules

All modules will carry 100 marks (i.e. expressed as %) and will be assessed as follows (unless otherwise specified):

Written examinations for all modules, whether taught in semester 1 or 2 or both, will be carried out at the end of the academic year (unless other wise stated). All papers will be assessed over 100 marks.

The pass mark for the Continuous Assessment and the respective written paper will be 50% each.

For modules examined jointly, marks for the two modules will be considered **together** and not the individual marks for each of the two modules.

For all modules taught in Semester 1, the compulsory class test counting for the continuous assessment will be at the end of Semester 1 of the given academic year.

Written exams will carry a weighting of **60%** of the total marks with continuous assessment counting for the remaining **40%** of the marks. Details are given below.

All written papers will have six compulsory questions carrying a maximum of 10 marks each. In case of Semester modules being assessed jointly, papers will contain two sections (one for each module) comprising of three questions each.

Semester Modules Examined Singly

All modules, except where specified, will be assessed by a 2 hr written exam paper at the end of the year in which they are offered.

Semester Modules Examined Jointly

The following pairs of semester modules will be assessed jointly by a 3 hr written exam paper at the end of the academic year in which they are offered:

Year I

PHAR 1111(1) / PHAR 1221(1); PHAR 1121(1) / PHAR 1211(1)

Year II

PHAR 2111(3) / PHAR 2241(3); PHAR 2121(3) / PHAR 2231(3); PHAR 2221(3) / PHAR 2251(3)

Year III

PHAR 3131(5) / PHAR 3211(5); PHAR 3141(5) / PHAR 3111(5); PHAR 3151(5) / PHAR 3221(5)

Year IV

PHAR 4111(5) / PHAR 4211(5); PHAR 4121(5) / PHAR 4241(5); PHAR 4221(5) / PHAR 4231(5)

All other Semester modules will be examined as single modules at the end of the academic year in which they are offered.

9.2 Professional Practice Training (Dispensing Practice Modules)

Professional training is distributed throughout every year of the curriculum in the form of Dispensing Practice Modules (equivalent to 90 hrs of practice each).

To ensure a depth of learning, professional practice will be guided and workplace skills assessed by a learning contract (an agreement about the particular knowledge, skill, or attitudes the student will develop as well as the roles and responsibilities of the student, including regular attendance at placement) and supervised and assessed by practicing pharmacists, preferably with at least three years' experience.

The identified supervisor at the Pharmacy where the students will be placed will be required to fill out a questionnaire pertaining to student's performance during the placement. Students must demonstrate that they have achieved the learning objectives specified in the learning contract.

For the Dispensing Practice, students will be assessed via a reflective portfolio which they will need to submit at the end of each year and via the supervisor's questionnaire assessing their performance during placement. Successful students will be awarded a satisfactory grade (Grade S). Students with unsatisfactory performance in the Dispensing Practice will be awarded a Grade U.

Students must obtain a Grade S in all the Dispensing Practice Modules for the relevant years for the award of a Pharmacy Technician Diploma and/or a BPharm.

9.3 Practical work and Continuous Assessment

➤ Modules including a Practical Component

Written exams for such modules will carry a weighting of 60% and continuous assessment of practical work and of theory work will carry a weighting of 40%.

There will be no practical exams. Practical work will be assessed on a continuous assessment basis which will carry a weighting of 30% of the total marks awarded for the respective modules involved. The continuous assessment for practical work will include a **practical class test** (weighting 20%), and a **Practical Viva** (weighting 10%).

Continuous assessment for the theory part of modules having a practical component may be in the form of assignments but should include at least one class test and will carry a weighting of 10% of total marks for the module. The pass mark for the continuous assessment of practical work and of theory work will be 50% each.

➤ Modules not including a practical component

Continuous assessment for modules not including a practical component may be in the form of assignments but should include at least one class test and will carry a weighting of 40% of total marks for the respective modules. For HLS 2151 the meta-analysis will carry a weighting of 50%, class test 10% and exams 40%.

➤ Modules including project work

For modules including mini-project work, **whether assessed jointly or singly**, the mini-project will carry a total weighting of 30% of total marks and will have a pass mark of 50%. The project will be assessed through a formal oral presentation of the mini-project carrying 50 marks and a weighting of 15% of total marks and a report as specified in module description which will carry 50 marks and a weighting of 15% of total marks. **Students will need to pass the mini-project work in order to pass the module or exam paper.**

Continuous assessment for the theory part of the modules may be in the form of assignments but should include at least one class test and will carry a weighting of 10% of total marks for the respective modules.

The **Research Projects** (PHAR 2000 and PHAR 4000) will carry a total of 100 marks with a weighting distribution as follows:

- | | | |
|-------|---|--|
| (i) | Written project report:
with moderation of both set of marks by External Examiner] | 70% [35% Supervisor(s) and 35% Second Assessor] |
| (ii) | Formal oral presentation of project: | 10% (30% for PHAR 2000) |
| (iii) | Viva by external examiner: | 20 % (0% for PHAR 2000) |

10. Grading Structure

This will be as shown below taking into account that the pass mark for all modules is 50%.

GRADE POINT AVERAGE (GPA) and CUMULATIVE POINT AVERAGE (CPA) FORMULAE

Under the GPA, the following letter grades and their grade point equivalent are used:

Letter Grade	Grade Point	Percentage Mark
A ⁺	4.00	$90 \leq x \leq 100$
A		$80 \leq x < 90$
A ⁻		$70 \leq x < 80$
B ⁺	3.00	$65 \leq x < 70$
B		$60 \leq x < 65$
C	2.00	$50 \leq x < 60$
F	0	$x < 50$

11. Classification of Award

The degree classification will be based on the **overall percentage marks** at the end of the Programme as follows:

CPA (%)	CLASSIFICATION
$\geq 70\%$	1 st Class)
$60 \leq x < 70$	2 nd Class 1 st Division) With
$50 \leq x < 60$	2 nd Class 2 nd Division) Honours
< 50	No Award

12. Repeat and Termination of Registration

If the CPA of a student is below 50% for an academic year, s/he will have to repeat the entire academic year and retake modules as and when offered. However, s/he will not be required, if s/he wishes, to retake modules for which Grade C or above has been obtained.

Students will be allowed to repeat only once over the entire duration of the Programme of Studies.

Registration of a student will be terminated if:

- (i) the CPA $< 50\%$ at the end of an academic year and the student has already repeated one year of study; or
- (ii) the maximum duration allowed for completion of the Programme of Studies has been exceeded.

However a student whose CPA is less than 50% at the end of an academic year and who has already repeated one year of study may be allowed, subject to approval by Board of Examiners, Faculty Board and Senate, to continue with his/her Programme of studies provided:

- (i) at least 75% of the number of credits required for the award of the degree have already been earned; and
- (ii) the maximum allowable duration of the Programme of Studies, as specified in the structure, has not been exceeded.

A student's registration will lapse at the end of the semester in which he/she has successfully completed the minimum requirements for the award of the degree.

13. Reassessment

Re-examination will be allowed only on medical grounds and other special circumstances subject to approval by Faculty Board and Senate upon recommendation by the Board of Examiners. In such cases, Grade I indicating incomplete will be provisionally awarded.

14. Modules of Special Nature

Audit Module

Students who wish to follow specific module(s) or are advised to do so by a Department may audit same. Such Audit modules are not examinable but will appear in their transcript subject to satisfactory attendance (Grade S).

Self-Study Modules

Self-study modules for unsuccessful candidates will only be available for non-professional modules.

15. Important Note

The rules as stipulated in this Programme Structure and Outline Syllabus will replace all other rules and regulations.

16. List of Modules

(L = Lectures; P = Practicals; NA = Not Applicable; O.E. = Online)

All modules carry 3 credits, except where indicated.

The Foundation modules and Dispensing Practice modules throughout the course carry no credits.

Weighting of modules: BPharm: Year 1 : 1; Year 2: 3; and Years 3 & 4: 5.

Code	Module Name	L/P	Credits
<u>Year I</u>			
<i>Optional modules as per individual requirements</i>			
HLS 1011/ HLS 1012	Foundation Course in Biology or Foundation Course in Physics	60/30	0
<i>Compulsory Modules</i>			
<u>Year I</u>			
Semester 1			
PHAR 1111	Pharmaceutics I (Introduction to Pharmacy)	45/0	3
PHAR 1121	Pharmaceutical Chemistry I (Organic, Inorganic and Medicinal Chemistry)	30/30	3
HLS 1131	Introduction to Human Anatomy and Physiology	45/0	3
HLS 1141	Molecular and Cell Biology for Health Sciences	40/10	3
COMS 1010	Communication Skills		3
PHAR 1011	Dispensing Practice I	0/90	0
Semester 2			
BMS 1221	Medical Microbiology I	30/30	3
HLS 1261	Biochemistry for Health Sciences I	30/30	3
PHAR 1211	Pharmacognosy I	45/0	3
PHAR 1221	Pharmaceutics II (Dispensing Pharmacy)	45/0	3
CSE 1010E	Introduction to Information Technology	O.E	3
PHAR 1011	Dispensing Practice I	0/90	0
<u>Year II</u>			
Semester 1			
HLS 2141	Biology of Disease I (Basic Pathology)	45/0	3
HLS 2151	Health Research Methods and Biostatistics	45/0	3
HLS 2161	Biochemistry for Health Sciences II	30/30	3
PHAR 2111	Pharmaceutical Chem II (Pharmaceutical Analysis I)	30/30	3
PHAR 2121	Pharmacology I	30/30	3
PHAR 2011	Dispensing Practice II	0/45	0
PHAR 2000	Research Dissertation	NA	6

Semester 2

PHAR 2211	Pharmacy Practice I (Hospital and Clinical Pharmacy)	45/0	3
PHAR 2221	Pharmaceutics III (Physical Pharmacy)	40/10	3
PHAR 2231	Pharmacology II	30/30	3
PHAR 2241	Pharmaceutical Chemistry III (Organic Chemistry including Heterocyclic & Medicinal Chemistry)	30/30	3
PHAR 2251	Pharmaceutics IV (Pharmaceutical Technology- Unit Operations)	40/10	3
PHAR 2011	Dispensing Practice II	0/45	0
PHAR 2000	Research Dissertation	NA	6

Year III**Semester 1**

PHAR 3111	Pharmaceutical Chemistry IV (Pharmaceutical Analysis II)	30/30	3
PHAR 3121	Pharmaceutical Chemistry V (Medicinal Chemistry)	30/30	3
PHAR 3131	Pharmacognosy II	30/30	3
PHAR 3141	Pharmaceutics V (Pharmaceutical Technology II)	45/0	3
PHAR 3151	Pharmaceutics VI (Pharmaceutical Microbiology, Biological Pharmacy & Cosmeticology)	30/30	3
Dispensing Practice III	0/90	0	PHAR 3011

Semester 2

PTH 3221	Psychology for Health Sciences	45/0	3
PHAR 3211	Pharmacognosy III	30/30	3
PHAR 3221	Pharmaceutics VII (Drug Development, Pharmaceutical Biotechnology & Formulative Pharmacy)	45/0	3
HLS 3211	Medical Physiology and Endocrinology	45/0	3
HLS 3221	Biology of Disease II (Pathophysiology)	45/0	3
PHAR 3011	Dispensing Practice III	0/90	0

Year IV**Semester 1**

PHAR 4111	Pharmacotherapy I	30/30	3
PHAR 4121	Pharmacy Practice II (Pharmaceutical Management)	45/0	3
PHAR 4131	Environmental Health and Toxicology	45/0	3
PHAR 4141	Pharmacognosy IV	30/30	3
PHAR 4011	Dispensing Practice IV	0/90	0
PHAR 4000	Research Project	NA	10

Semester 2

PHAR 4211	Pharmacotherapy II	30/30	3
PHAR 4221	Pharmacy in Society	45/0	3
PHAR 4231	Pharmacogenetics and Pharmacovigilance	45/0	3
PHAR 4241	Pharmacy Practice III (Forensic Pharmacy and Ethics)	45/0	3
PHAR 4011	Dispensing Practice IV	0/90	0
PHAR 4000	Research Project	NA	10

17. Programme Plan - BPharm

HLS 1011/HLS 1012: Foundation courses in Biology and Physics will be offered between July and August prior to the start of Semester 1.

Semester 1		Semester 2	
Code	Module Name	Code	Module Name
PHAR 1111	Pharmaceutics I (Introduction to Pharmacy)	BMS 1221	Medical Microbiology I
PHAR 1121	Pharmaceutical Chemistry I (Organic, Inorganic and Medicinal Chemistry)	HLS 1261	Biochemistry for Health Sciences I
HLS 1131	Introduction to Human Anatomy and Physiology	PHAR 1211	Pharmacognosy I
HLS 1141	Molecular and Cell Biology for Health Sciences	PHAR 1221	Pharmaceutics II (Dispensing Pharmacy)
COMS 1010	Communication Skills	CSE 1010E	Introduction to Information Technology
PHAR 1011	Dispensing Practice I	PHAR 1011	Dispensing Practice I
Semester 3		Semester 4	
Code	Module Name	Code	Module Name
HLS 2141	Biology of Disease I (Basic Pathology)	PHAR 2211	Pharmacy Practice I (Hospital and Clinical Pharmacy)
HLS 2151	Health Research Methods and Biostatistics	PHAR 2221	Pharmaceutics III (Physical Pharmacy)
HLS 2161	Biochemistry for Health Sciences II	PHAR 2231	Pharmacology II
PHAR 2111	Pharmaceutical Chemistry II (Pharmaceutical Analysis I)	PHAR 2241	Pharmaceutical Chemistry III (Organic Chemistry including Heterocyclic and Medicinal Chemistry)
PHAR 2121	Pharmacology I	PHAR 2251	Pharmaceutics IV (Pharmaceutical Technology – Unit Operations)
PHAR 2011	Dispensing Practice II	PHAR 2011	Dispensing Practice II
PHAR 2000	Research Dissertation	PHAR 2000	Research Dissertation
Semester 5		Semester 6	
Code	Module Name	Code	Module Name
PHAR 3111	Pharmaceutical Chemistry IV (Pharmaceutical Analysis II)	PTH 3221	Psychology for Health Sciences
PHAR 3121	Pharmaceutical Chemistry V (Medicinal Chemistry)	PHAR 3211	Pharmacognosy III
PHAR 3131	Pharmacognosy II	PHAR 3221	Pharmaceutics VII (Drug Development, Pharmaceutical Biotechnology & Formulative Pharmacy)
PHAR 3141	Pharmaceutics V (Pharmaceutical Technology II)	HLS 3211	Medical Physiology and Endocrinology
PHAR 3151	Pharmaceutics VI (Pharmaceutical Microbiology, Biological Pharmacy and Cosmeticology)	HLS 3221	Biology of Disease II (Pathophysiology)
PHAR 3011	Dispensing Practice III	PHAR 3011	Dispensing Practice III
Semester 7		Semester 8	
Code	Module Name	Code	Module Name
PHAR 4111	Pharmacotherapy I	PHAR 4211	Pharmacotherapy II
PHAR 4121	Pharmacy Practice II (Pharmaceutical Management)	PHAR 4221	Pharmacy In Society
PHAR 4131	Environmental Health and Toxicology	PHAR 4231	Pharmacogenetics and Pharmacovigilance
PHAR 4141	Pharmacognosy IV	PHAR 4241	Pharmacy Practice III (Forensic Pharmacy and Ethics)
PHAR 4011	Dispensing Practice IV	PHAR 4011	Dispensing Practice IV
PHAR 4000	Research Project	PHAR 4000	Research Project