

3.3.4 Bachelor of Science (Pharmacy)/Bachelor of Science (Pharmacy) (Hons.) [B.Sc. (Pharm.)/B.Sc. (Pharm.) (Hons.)]

A pharmacist is a healthcare professional who is an expert in drugs and is involved in dispensing, counselling and managing the safe and effective use of drugs. Therefore, the pharmacist is specially trained to be knowledgeable in every aspect of drugs. The vast knowledge that is necessary to perform these functions is multidisciplinary. It ranges from the properties and actions of drugs to the technology and science behind the production of a medicinal product, and finally to the rational use of a drug for optimal therapeutic outcome in patients.

Pharmacy as a profession is evolving continuously and new practices are introduced to provide better healthcare for people. If helping the sick recover from the appropriate use of medicines and promoting of wellness and healthy lifestyle gives you a sense of purpose, then pharmacy will be a good choice of study. In addition, pharmacy education provides one with the grounding in physicochemical, biomedical and pharmaceutical sciences. This can also open career opportunities into the exciting arena of pharmaceutical industry where you can be involved in the research and development of drugs, clinical trials, pharmaceutical marketing and pharmaceutical sales.

Programme Structure and Curriculum Rationale

The primary aim of the pharmacy course is to provide the relevant knowledge and skills that are required for entry into the profession. The course focuses on laying a strong foundation in topics related to pharmaceutical sciences and pharmacy practice so that graduates can readily apply these fundamental principles to their future employment, be it in the community practice, hospital service, healthcare business, pharmaceutical industry or research. In addition, interprofessional education is integrated into the curriculum as an essential component to prepare graduates for interprofessional collaborative patient-centred practice as healthcare professionals. The curriculum is enriched with experiential learning in the form of laboratory training, interactive flipped classroom learning models and one-on-one coaching on professional skills (such as patient counselling), and finally culminating in a capstone year (i.e. Year 4) by completing a final year research project and internships.

Pharmacy is a four-year programme. The degree in BSc (Pharmacy) with Honours will be awarded to candidates who have performed well throughout the course of study, as determined by their cumulative average points. Those who do not qualify for Honours degrees will be awarded a BSc (Pharmacy) degree.

Career Prospects

Upon completion of the Pharmacy degree course and registration with the Singapore Pharmacy Council (after a 12-month pre-registration training programme of which a 6-month equivalent is completed as part of in-course requirement), a wide variety of career options is open to the registered pharmacists. Pharmacists may seek to build a career and specialise in patient care practice either in the hospital or

community pharmacy. Intensive care, oncology, infectious diseases, nutritional support, geriatric care and drug information are some areas of specialisation that pharmacists may choose to pursue. Besides patient care, pharmacists may prefer to enter the pharmaceutical industry where they seek jobs related to clinical trial management, product registration, pharmaceutical manufacturing, sales and marketing of pharmaceuticals, healthcare products and medical devices. In addition, pharmacists may be involved in regulatory affairs of prescription drugs, health supplements, cosmetics and traditional Chinese medicines. Therefore a degree in Pharmacy certainly offers diversity and flexibility in career development.

Graduation Requirements

To be awarded a BSc (Pharmacy) or BSc (Pharmacy) (Hons), candidates must satisfy the following:

MODULE LEVEL	MAJOR REQUIREMENTS	CUMULATIVE MAJOR MCS
Faculty Requirement (16 MCs)	Pass AY1130 Human Physiology & Anatomy I PA1113 Basic Pharmacology PY1131 Human Physiology & Anatomy II PX2108 Basic Human Pathology	16
Level-1000 (16 MCs)	Pass PR1110 Foundations for Medicinal Chemistry PR1111 Pharm Biochemistry PR1120 Microbiology for Pharmacy PR1140 Pharmacy Professional Skills Development I	32
Level-2000 (32 MCs)	Pass PR2114 Formulation & Technology I PR2115 Medicinal Chemistry for Drug Design PR2122 Biotechnology for Pharmacy PR2131 Pharmacy Professional Skills Development II PR2133 Pharmacotherapeutics I PR2134 Self Care PR2135 Pharmacotherapeutics II PR2143 Pharmaceutical Analysis for Quality Assurance	64

MODULE LEVEL	MAJOR REQUIREMENTS	CUMULATIVE MAJOR MCS
Level-3000 (32 MCs)	Pass PR3116 Concepts in Pharmacokinetics and Biopharmaceutics PR3124 Pharmacotherapeutics III PR3117 Formulation & Technology II PR3136 Pharmacotherapeutics IV PR3137 Pharmacy Professional Skills Development III PR3144 Principles of Research Methods PR3145 Compliance & Good Practices in Pharmacy PR3146 Pharmacy Law in Singapore	96
Level-4000 (28 MCs)	Pass PR4138 Pharmacy Professional Skills Development IV PR4197A Pharmacy Internship I PR4198A Pharmacy Internship II <u>Final Year Project</u> (i) PR4196 Pharmacy Research Project and Scientific Communication OR (ii) PR4195 Scientific Evaluation, Analysis and Communication (12 MCs) and any one of the following modules: PR3202 Community Health & Preventive Care PR4201 Pharmaceutical Marketing PR4205 Bioorganic Principles of Medicinal Chemistry PR4207 Applied Pharmacokinetics & Toxicokinetics	124

SUMMARY OF REQUIREMENT BSC (PHARMACY)/BSC (PHARMACY) (HONS)

University Requirement	20 MCs
Faculty Requirements	16 MCs

SUMMARY OF REQUIREMENT BSC (PHARMACY)/BSC (PHARMACY) (HONS)

Major Requirement	108 MCs
Unrestricted Elective Modules	16 MCs
Total	160 MCs

Note:

Curricular content and graduation requirements may be subject to change.