



[Company No. 101067-P]

الجامعة الإسلامية العالمية ماليزيا
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
يُونَيْتِي سَلَامٌ أَنْتَارَا بِيحْسَابِ مِلْسِيَا

Garden of Knowledge and Virtue

LEADING THE WAY

KHALĪFAH • AMĀNAH • IQRA' • RAḤMATAN LIL-ĀLAMĪN

Kulliyyah of Pharmacy
Curriculum Structures
Bachelor's Degree in Pharmacy (Hons.)
(Intake Semester 1 2019/2020 onwards)

The core courses are compulsory for all students in the Pharmacy Programme. Students are required to register and pass all of these courses. Students who fail in any of these courses have to repeat the course. A total of 135 credit hours must be registered by the end of study period for the purpose of graduation. The curriculum structures are as follows:

PROGRAMME REQUIREMENT

Subject Classification	Credit Value
Kulliyyah Core Courses	103 CH
Elective Courses	10 CH
Kulliyyah Required Courses	2 CH
University Required Courses	20 CH

Year 1, Semester I		
Course	Subject	CH
PPBM 1211	Basic Anatomy & Histology	2
PPBM 1321	Fundamentals of Physiology	3
PPBM 1331	Medical Biochemistry	3
PPPP 1241	Fundamentals of Pharmacy Practice	2
PPPC 1351	Pharmaceutical Organic Chemistry	3
UNGS 2080K	<i>Ethics and Fiqh for Contemporary Issues</i>	2
TQS 1001/2001	<i>Tilawah 1 / Tilawah 2</i>	0.5
LQ 1008	<i>Quranic Language 1 (exemption)</i>	0.5
LQ 2008	<i>Quranic Language 2 (exemption)</i>	0.5
CCUB 1621	<i>Usrah 1 (BUDI)</i>	0.5
CCLM 2051 / T	<i>Leadership and Management / Tahfiz 1</i>	0.5
LM 1030	<i>Bahasa Melayu 1 Untuk Pelajar Antarabangsa (Non Malaysian) - Bukan Nusantara</i>	1
MPU 3112	<i>Hubungan Etnik</i>	2
Total		18.5

} Direct Intake

Foreigner

Year 1, Semester II		
Course	Subject	CH
PPBM 1212	Fundamentals of Pharmacology	2
PPBM 1222	Basic Microbiology & Immunology	2
PPPC 1332	Fundamentals of Medicinal Chemistry	3
PPPC 1242	Basic Pharmaceutical Analysis	2
PPPT 1352	Pharmaceutics I: Physicochemical Principles	3
TQS 2001	<i>Tilawah 1 / Tilawah 2</i>	0.5
CCUB 2621	<i>Usrah 2 (BUDI)</i>	0.5
CCFM 2052/ T	<i>Family Management and Parenting/ Tahfiz 2</i>	0.5
LM 2026K	<i>Bahasa Melayu Kerjaya (Sains dan Teknologi)</i>	2
LE 4000	<i>English for Academic Purposes</i>	3
Total		18.5

Year 1, Semester III		
Course	Subject	CH
LM 1031	<i>Bahasa Melayu II Untuk Pelajar Antarabangsa (Non Malaysian) - Bukan Nusantara</i>	1
UNGS 2060	<i>Malay Virtues, Heritage and Malaysian Society - (for Non Malaysian)</i>	2
Total		3

} Foreigner

Year 2, Semester I		
Course	Subject	CH
PPBM 2311	Pharmacology of Peripheral Nervous System	3
PPBM 2221	General Pathology	2
PPBM 2231	Anti-Infective Agents	2
PPPT 2341	Pharmaceutics II: Disperse Systems	3
PPPC 2251	Pharmaceutical Instrumental Analysis	2
PPPP 2261	Community Pharmacy Practice	2
<i>CCUB 3621</i>	<i>Usrah 3 (BUDI)</i>	<i>1</i>
<i>S/T</i>	<i>SKILL 1 / Tahfiz 3</i>	<i>0.5</i>
<i>UNGS 2011K</i>	<i>Creative Thinking and Problem Solving</i>	<i>2</i>
	Total	17.5
Elective courses		
Course	Subject	CH
PPPC 2271	Nuclear Pharmacy	2
PPPT 2281	Cosmetics & Cosmeceuticals	2
	Total	4

* Students can only register 1 elective course

19.5

Year 2, Semester II		
Course	Subject	CH
PPHK 2312	Body System & Therapeutics I : Cardiovascular & Haematology	3
PPHK 2322	Body System & Therapeutics II : Respiratory & Urinary System	3
PPPP 2232	Pharmacoepidemiology and Pharmacoconomics	2
PPPT 2342	Pharmaceutics III: Solids and Other Dosage Forms	3
PPPT 2252	Sterile Processes and Products	2
<i>S/T</i>	<i>SKILL 2 / Tahfiz 4</i>	<i>0.5</i>
<i>UNGS 2090K</i>	<i>The Islamic Worldview & Civilization</i>	<i>2</i>
<i>MPU 3122</i>	<i>Tamadun Islam dan Tamadun Asia (TITAS)</i>	<i>2</i>
	Total	17.5
Elective courses		
Course	Subject	CH
PPPT 2262	Nutraceutical	2
PPPC 2272	Halal Pharmaceutical	2
PPPC 2282	Computer-Aided Drug Design And Discovery	2
	Total	6

* Students can only register 1 elective course

19.5

Year 3, Semester I		
Course	Subject	CH
PPBM 3211	Anticancer Chemotherapy	2
PPHK 3321	Body System & Therapeutics III : Musculoskeletal System & Sensory Organs	3
PPHK 3331	Body System & Therapeutics IV : Gastrointestinal & Hepatobiliary Systems	3
PPHK 3341	Body System & Therapeutics V : Endocrine & Reproductive Systems	3
PPPC 3251	Pharmacognosy	2
PPPT 3261	Pharmaceutical Biotechnology & Biopharmaceuticals	2
CCUB 4621	<i>Usrah 4 (BUDI)</i>	1
	<i>Tahfiz 5</i>	0.5
	Total	15/16.5
Elective courses		
Course	Subject	CH
PPPT 3271	Advanced Drug Delivery System	2
PPPP 3281	Renal Pharmacy	2
	Total	4

(IF)

* Students can only register 1 elective course

17.5

Year 3, Semester II		
Course	Subject	CH
PPPP 3212	Pharmacy Management and Entrepreneurship	2
PPPP 3322	Basic and Clinical Pharmacokinetics	3
PPPP 3232	Pharmacy Ethics and Law	2
PPPP 3342	Hospital Pharmacy Practice	3
PPHK 3352	Body System & Therapeutics VI : Central Nervous System	3
PPPC 3262	Pharmaceutical Quality Control	2
	<i>Tahfiz 6</i>	0.5
	Total	15/15.5
Elective courses		
Course	Subject	CH
PPPP 3272	Drug Abuse	2
PPPT 3282	Pharmaceutical Quality Management	2
	Total	4

(IF)

* Students can only register 1 elective course

17.5

Elective courses		
Year 3, Semester III		
Course	Subject	CH
PPPP 3413	Community Posting	4
PPPP 3423	Hospital Pharmacy Attachment	4
	Total	8

** Students can only register 1 elective course*

Year 4, Semester I		
Course	Subject	CH
PPHK 4611	Final Year Research Project	6
PPHK 4221	Islamic Input in Pharmacy	2
	Total	8
Elective courses		
Course	Subject	CH
PPPP 4231	Clinical Toxicology	2
PPPP 4341	E-Commerce	3
PPPC 4251	Herbal Science	2
PPPP 4261	Public Health Pharmacy	2
	Total	9

15/17

Year 4, Semester II		
Course	Subject	CH
PPPT 4512	Industrial Training	5
PPPP 4422	Pharmacotherapeutics Attachment	4
PPPP 4432	Community Pharmacy Posting	4
	Total	13

13

Core Courses

PPBM 1211 BASIC ANATOMY & HISTOLOGY

This course is to equip the students with basic knowledge on structures of cells, tissues and organs/systems in the body. The knowledge acquired will provide solid foundation for understanding the function of various systems in the human body and subsequently assist in understanding the abnormalities of the organs involved in various diseases.

PPBM 1321 FUNDAMENTALS OF PHYSIOLOGY

This course is to equip the students with various concepts in physiology so as to enable the students to discuss the relationship between structure and function in the human body and its regulation.

PPBM 1331 MEDICAL BIOCHEMISTRY

This course introduces the students to basic biochemistry related to medical and pharmaceutical fields. At the end of the course, students should be able to apply the knowledge they obtained from this course to any related problems in order to appreciate disease management, treatment and pharmaceutical care.

PPPP 1241 FUNDAMENTALS OF PHARMACY PRACTICE

The course consists of a series of lectures, tutorials, laboratory practicals, visit, group discussions and quizzes. Students will be introduced to various pharmacy services; dosage forms; types of pharmaceutical preparations; pharmaceutical care concept; different drug classes and approach to quality use of medicines by providing explicit instruction on medication use. The requirements for the good manufacturing practice (GMP) in small pharmaceutical industries and good lab practices (GLP) in extemporaneous dispensing will also be included in this course. Students will also be taught on the importance of pharmaceutical calculations, the use of Latin abbreviations in prescriptions and formulations, list of schedule poisons and the regulatory requirements in drug usage.

PPPC 1351**PHARMACEUTICAL ORGANIC CHEMISTRY**

The course covers a wide area in basic and advanced pharmaceutical organic chemistry, beginning with electronic configurations, molecular structure and bonding in organic chemistry and stereochemistry followed by a variety of functional groups substituted into the aliphatic and aromatic molecules. Some methods for their synthesis, characteristic reactions and mechanisms involved are discussed in some detail. The knowledge acquired from this course should help students to appreciate more complex pharmaceuticals and the reaction mechanisms they are likely to encounter in understanding medicinal chemistry and pharmacology of drugs.

PPBM 1212**FUNDAMENTALS OF PHARMACOLOGY**

This course is to provide students with the basic understanding pharmacokinetics and pharmacodynamic aspects of drug including the ADMER and receptors in drug action, the mechanisms of drug action, disposition of drugs by the body. The course also introduces processes in drug development.

PPBM 1222**BASIC MICROBIOLOGY & IMMUNOLOGY**

This course is to equip the student with basic knowledge on medically important microorganisms and the diseases caused by the organisms. The course will also provide understanding on the function and significant components of the immune system.

PPPC 1332**FUNDAMENTALS OF MEDICINAL CHEMISTRY**

This course is designed to provide pharmacy students with a basic understanding of drug mechanism of action, structure-activity relationships (SAR), acid-base and physicochemical properties, pharmacokinetics and toxicity profiles. A comprehensive understanding of the chemical basis of drug action will equip the pharmacy students with the ability to rationally answer the questions related to drug action as the chemical experts among other health care professionals. The students will also learn about the structural modification strategies available and applied to a lead compound to improve its chemical properties in order to optimise its *in vivo* profiles, starting from the drug discovery phase until the drug enters the market as a new drug molecule.

PPPC 1242 BASIC PHARMACEUTICAL ANALYSIS

The course has been designed to introduce students to the fundamental of qualitative and quantitative analysis of pharmaceuticals. Students will obtain basic knowledge and skills in the pharmaceutical calculations, principle and application of the important techniques, instrumentations and conducting experiments in the field of pharmaceutical analysis.

PPPT 1352 PHARMACEUTICS I : PHYSICOCHEMICAL PRINCIPLES

This course provides the knowledge base to be used in subsequent courses and professional practice. It introduces the fundamental physicochemical properties and processes important in dosage design and drug delivery. The laboratory practical incorporated in this course will illustrate some of the physicochemical properties/processes of drugs/excipients that influence pharmaceutical formulation and drug delivery.

PPBM 2311 PHARMACOLOGY OF PERIPHERAL NERVOUS SYSTEM

This course provides basic understanding on basic pharmacology and toxicology of drugs that are used for diseases and medical procedures involving peripheral nervous system.

PPBM 2221 GENERAL PATHOLOGY

This course is to equip the students with the basic knowledge of general principles of disease processes to enable the students to describe the basic pathophysiology of diseases.

PPBM 2231 ANTI-INFECTIVE AGENTS

This course introduces the pharmacology, medicinal chemistry and the principles of therapy and clinical usages of various anti-infective agents.

PPPT 2341 PHARMACEUTICS II : DISPERSE SYSTEMS

This course introduces students to the theory and practice of the formulation and development of liquid and disperse system drug products. Despite the diversity of the disperse systems, there are unifying theoretical concepts that are applicable to all of them. The students' insights of these concepts will be enhanced through laboratory practical incorporated in this course. The practical will provide the students with the experience in formulating and developing halal liquid and disperse system drug products.

PPPC 2251

PHARMACEUTICAL INSTRUMENTAL ANALYSIS

Students will be introduced with the theory and background of modern instrumental techniques and their importance in pharmaceutical analysis. The course will be focused on the principle of atomic absorption spectroscopy, liquid chromatography, mass spectrometry and nuclear magnetic resonance spectroscopy. Students will be familiarising with the principle and instrumentation part of different modern analytical instrument. Laboratory session is designed to help student to apply their knowledge of instrumental techniques for the analysis of pharmaceutical products.

PPPP 2261

COMMUNITY PHARMACY PRACTICE

This course emphasises on non-prescription medications in the community pharmacy and its requirements of dispensing practice, interpreting prescriptions and packaging of medications. The policies and laws pertaining to the use of medications and record of prescriptions/medications in primary healthcare settings will also be included. In addition, students will be introduced to the basic knowledge of entrepreneurship focusing on the administrative and management aspects of a community pharmacy.

PPHK 2312

BODY SYSTEM & THERAPEUTICS I : CARDIOVASCULAR & HAEMATOLOGY

This course is introduced to enable students to acquire knowledge on properties and electrical events in the heart, to comprehend pathophysiology of blood-pressure abnormalities, disorders of cardiovascular system and its consequences, in order to appreciate disease management, treatment and pharmaceutical care.

PPHK 2322

BODY SYSTEM & THERAPEUTICS II : RESPIRATORY & URINARY SYSTEM

This course is a continuation of Anatomy & Histology and Fundamentals of Physiology. It identifies some of the common diseases of the urinary system and respiratory systems and discusses the principles of treatment and pharmaceutical care of the diseases.

PPPP 2232

PHARMACOEPIDEMOLOGY AND PHARMACOECONOMICS

This course has been designed to introduce students to the principles of Pharmacoepidemiology and Pharmacoeconomics, It will includes study designs in pharmacoepidemiology, drug utilisation studies, introduction to pharmacovigilance, Malaysian adverse drug reaction system, analysis & assessment of adverse drug reaction, critical appraisal of health-related literature, methods of pharmacoeconomics and applications of pharmacoeconomics, sensitivity analysis, evaluating pharmacoeconomics literature, decision analytic model, Budget Impact Analysis (BIA) and structure and financing of health care system.

PPPT 2342

PHARMACEUTICS III : SOLIDS AND OTHER DOSAGE FORMS

Emphasis is given to the various aspects of designing and developing different solid dosage forms for various drug delivery strategies to meet the requirements of therapeutic efficacy, stability and safety. The main focus of this course is solid oral dosage forms.

PPPT 2252

STERILE PROCESSES AND PRODUCTS

Many pharmaceutical products are in sterile form. The production requirement of sterile products is different from those of non-sterile. This course provides knowledge on formulation of sterile pharmaceuticals, essential criteria on the design of the manufacturing facility, sterile processing and testing, which are important for all pharmacists.

PPBM 3211

ANTICANCER CHEMOTHERAPY

This course provides understanding on the basic pharmacology, toxicology and medicinal chemistry of commonly used anticancer agents. This course also introduces the students with the importance and the role of a pharmacist for management of cancer. The students will be exposed to the current pharmaceutical care strategies in the management of common cancer.

PPHK 3321

BODY SYSTEM & THERAPEUTICS III: MUSCULOSKELETAL SYSTEM & SENSORY ORGANS

A course on the musculoskeletal system and two important sensory organs namely, the eyes and ears. The course covers and integrates the anatomy, physiology, pathology and pharmacological aspect of the organs to encourage and promote student's critical and integrative thinking with other subjects such as medicinal chemistry and pharmacotherapeutics.

PPHK 3331

BODY SYSTEM & THERAPEUTICS IV: GASTROINTESTINAL & HEPATOBILIARY SYSTEMS

This course is an integrative subject where basic knowledge learnt in Basic Medical Sciences pre-requisite course are applied to understand basic pathophysiology of diseases involving gastrointestinal tract and hepatobiliary and basic pharmacotherapeutic intervention available for treatment.

PPHK 3341

BODY SYSTEM & THERAPEUTICS V: ENDOCRINE & REPRODUCTIVE SYSTEMS

This course introduces the students to endocrine and reproductive system that is fundamental and importance for pharmacotherapeutics. It is also integrated with medicinal chemistry and pharmacotherapeutics. At the end of the course, students will be able to resolve any related problems in order to appreciate disease management, treatment and pharmaceutical care related to endocrine and reproductive system.

PPPC 3251

PHARMACOGNOSY

This course has been designed to introduce students to the fundamentals of pharmacognosy and its scope, the study of drugs of natural origin including plant, animal, fungal or bacterial sources. It will covers the major classes of medicinally active natural products, their structure, origin, biosynthesis and mode of action as well safety and quality control aspects and focus on herbs with evidence-based medicine.

PPPT 3261

PHARMACEUTICAL BIOTECHNOLOGY & BIOPHARMACEUTICALS

Pharmaceutical biotechnology and biopharmaceuticals describes basic principles of biotechnology used in pharmaceuticals and their use in drug therapy. It is transforming proteins and genes into drugs (biopharmaceuticals). It also describes production (manufacturing), analytical and delivery aspect of biopharmaceuticals. This course also offers therapeutic and clinical application of selected biopharmaceuticals.

PPPP 3212

PHARMACY MANAGEMENT AND ENTREPRENEURSHIP

This course has been designed to be taught as a series of management functions, conflict management and customer service. Students will be exposed to knowledge involving strategic planning in pharmacy operations, business planning for pharmacy programmes, managing technology and information systems and franchising. Students will also be exposed to different sources of financing, both conventional and Islamic, whereby basic knowledge of mudharabah and musharakah will be introduced.

PPPP 3322 BASIC AND CLINICAL PHARMACOKINETICS

Students will be introduced to the fundamentals of pharmacokinetics and will be able to apply the knowledge to clinical setting. Students will gain knowledge and provide solutions to actual cases from the Clinical Pharmacokinetic Service/Therapeutic Drug Monitoring Unit. This will prepare the students to later provide clinical pharmacokinetic services.

PPPP 3323 PHARMACY ETHICS AND LAW

The course consists of a series of lectures, tutorials, group discussions and case scenarios. The student will be given the opportunity to learn the relevant Acts and Regulations that applies to pharmacy profession in Malaysia including the Registration of Pharmacy Act, Poison Act, Dangerous Drug Act, and Sales of Drug Act. The knowledge of the National Medicine Policy (DUNAS), Good Governance for Medicines and Code of Conducts for pharmacist will be emphasised. Regulations pertaining to medicinal, cosmetic products, professional ethics from the Islamic perspective and the importance of confidentiality of patients' information will be discussed.

PPPP 3342 HOSPITAL PHARMACY PRACTICE

This course describes in greater depth on scope of the various services of hospital pharmacy with focus on management, administration and work processes thus exposing students to daily tasks and the various roles undertaken by a hospital pharmacist. The services that the students will be exposed to, are ambulatory pharmacy, in-patient pharmacy, drug information, pharmaceutical storage and procurement, medication dispensing and counseling, clinical pharmacokinetics, pharmaceutical manufacturing, aseptic dispensing on parenteral nutrition and cytotoxic drug reconstitution as well as radiopharmacy. This course also provides introduction of various extended hospital pharmacy services that are currently available in Malaysia. The services available include Medication Adherence Therapy (MTAC) of chronic diseases and Methadone Maintenance Therapy (MMT).

PPHK 3352 BODY SYSTEM & THERAPEUTICS VI : CENTRAL NERVOUS SYSTEM

This course reviews on basic anatomy and physiological functions of CNS in relation to the pathophysiology of diseases affecting CNS and the mechanisms of action of drugs acting on CNS. It is also integrated with medicinal chemistry and pharmacotherapeutics. At the end of the course, students will be able to discuss the principles of treatment and pharmaceutical care of CNS diseases.

PPPC 3262**PHARMACEUTICAL QUALITY CONTROL**

This course introduces the concept of QA and QC and their related standard guidelines applicable to pharmaceutical industries or any other healthcare institutions. The course will be focused on the quality control issues in quality management system required by pharmaceutical industries and other healthcare institutions highlighting the importance of good laboratory practice (GLP), good manufacturing practice (GMP), International Council of Harmonisation (ICH), ISO and MS 2424 in order to assure that the quality of the product and service are maintained. Students will be given exposure to the pharmacopoeial requirement for the testing and qualifying chemicals, reagent, instrument, glassware and also to validation protocols as per ICH, BP and USP. Proper disposal of chemicals and drugs is also included which is relevant to regulatory requirements. Students will be guided to construct the standard operation procedure and perform internal audit.

PPHK 4611**FINAL YEAR RESEARCH PROJECT**

This is a research methodology course with the emphasis on applied knowledge and practical for higher study. Students will be introduced to various branches of new research fields. The students will learn how to do literature search, write proposals, research reports, conducting the research followed by writing of research manuscripts. This course integrates basic principle and their specific study designs along with statistical analysis, source of data, methodological issues and their application. The course encompasses wide range of research topics and foster foundational knowledge and skills in different research methodologies.

PPHK 4221**ISLAMIC INPUT IN PHARMACY**

This course focuses on the basic principles of Islamic ethics and health problems. Emphasis on the understanding of the important and current scientific and health issues from Islamic perspective. The course also identifies the principles of Prophetic Medicinal treatment, thinking and solving problems with scientific knowledge.

PPPT 4512**INDUSTRIAL TRAINING**

This course is designed to provide comprehensive lectures on multidisciplinary nature of industrial pharmacy with subsequent hands-on training on various routine activities of a pharmaceutical industry. The latter is covered during industrial attachment at pharmaceutical manufacturing plant which include R&D, scale-up and routine production, quality control, quality assurance, logistics, regulatory affairs and relevant engineering activities.

This course has been designed for students to apply and enhance knowledge and skills in pharmacotherapeutics of various disorders related to internal medicine *via* experiential and interprofessional learning.

Students will be attached to a community pharmacy in Malaysia for 8 hours per day for 5 days in a week for duration of 4 weeks. The students will have an opportunity to observe the work of a community pharmacist and perform certain activities under supervision of the pharmacist preceptor. The activities include products or drugs procurement procedure, prescription screening, dispensing, customer services, counselling, selling products, drugs/products consultation, searching drug information, wholesaling (if any) and business related work. The students will be given the opportunity to learn on range of products which include over the counter (OTC), non-prescription medicines (NPM), prescription medicines, psychotropics (if any), dangerous drugs (if any), health care products, skin care, cosmetics, rehabilitation products, wound care, etc.

Elective courses

PPPC 2271 NUCLEAR PHARMACY

This course introduces the principles of radioactivity and various aspects of radiopharmaceuticals including processing, use, quality control and safe handling of radiopharmaceuticals. ^{99m}Tc -labelled radiopharmaceuticals are emphasised in the course since they are most commonly used at most nuclear medicine centres.

PPPT 2281 COSMETICS & COSMECEUTICALS

This course provides an understanding of cosmeceuticals with an emphasis on designing cosmeceutical formulations, its therapeutic significance, pharmacist's role, and regulatory issues pertaining to the marketing of these products.

PPPT 2262 NUTRACEUTICAL

This course provides an understanding of nutraceutical/functional food with an emphasis on pharmacist's role, quality assurance, safety and regulatory issues pertaining to the marketing of these products. Students are also introduced to evidence-based product development and population target of each product.

PPPC 2272 HALAL PHARMACEUTICAL

The course will covers different aspect of halal pharmaceuticals to enable the students to understand the concept of halal pharmaceuticals. Built-in halal approach and incorporating pharmaceutical GMP in halal assurance system will be the focus of the course. Halal registration, marketing, counseling and manufacturing issues are also included in this course. International and national requirement and guideline for halal pharmaceuticals will be highlighted. The teaching and learning will involve lectures, tutorial, assignments, visit. The assessment will be through continuous assessment (Assignment Presentation, Report writing) and examination.

PPPC 2282 COMPUTER-AIDED DRUG DESIGN AND DISCOVERY

The course is designed to introduce computational approaches used in drug design and discovery. It covers molecular mechanics methods, quantum mechanics methods and chemoinformatics. It also provides understanding and hands-on experiences on the use of different modelling and visualisation software to study drug-target interaction.

PPPT 3271**ADVANCED DRUG DELIVERY SYSTEM**

This is a multidisciplinary course involving biopharmaceutics, pharmacokinetics and pharmaceutical technology. The advanced technology in drug delivery systems has provides therapeutic benefits and has increase the commercial value of medicinal and health care products. Advanced drug delivery systems manipulate the use of various polymers and biopolymers systems either to achieve a controlled-release mechanism or targeting to the specific site or both. Overall aims are to increase the bioavailability, the therapeutic index and/or patients' compliance.

PPPP 3281**RENAL PHARMACY**

This course aims to prepare the pharmacy students with adequate theoretical ground covering numerous aspects of renal pharmacy. The course starts with an introduction to renal pharmacy services, it also covers various topics on kidney disease, including acute kidney injury (AKI), chronic kidney disease (CKD), its complications and their pharmacotherapeutic management, drug dosing in renal dysfunction, drug safety in CKD, CKD in special populations, drug induced nephrotoxicity, as well as drug therapy in glomerulonephritis. Besides, the course will encompass topics related to dialysis; i.e., basic principle of dialysis, pharmaceutical care issues in dialysis patients, proposed model of pharmaceutical care for End Stage Renal Disease (ESRD) patients on dialysis,. In addition, the course provides several topics related to renal transplantation, its immunosuppression therapies and the possible post-transplantation complications that frequently ensue.

PPPP 3272**DRUG ABUSE**

This course introduces the concepts, theory, epidemiology and underlying neuropharmacology of addiction. It also provides information on the range of commonly abused drugs and the various treatment and punishment regimes. The course consists of a series of lectures, educational visit, assignments (e.g., seminar presentation, poster presentation) and quizzes.

PPPT 3282**PHARMACEUTICAL QUALITY MANAGEMENT**

This course introduces the concept of pharmaceutical quality management and its related standard guidelines applicable to pharmaceutical industry. The course focuses on the quality management system required by pharmaceutical industry of medicinal products, highlighting the importance of GMP, GDP, GLP and others in order to assure the quality of pharmaceutical products.

PPPP 3413**COMMUNITY POSTING**

Students will be attached to a community pharmacy in Malaysia for 5 hours per day for 5 days in a week for duration of 6 weeks. The student will have an opportunity to observe the work of a community pharmacist and perform certain activities under supervision of the pharmacist preceptor. The activities include products or drugs procurement procedure, prescription screening, dispensing, customer services, counselling, selling products, drugs/products consultation, searching drug information, wholesaling (if any) and business related work. The student will be given the opportunity to learn on range of products which include over the counter (OTC), non-prescription medicines (NPM), prescription medicines, psychotropics (if any), dangerous drugs (if any), health care products, skin care, cosmetics, rehabilitation products, wound care, etc.

PPPP 3423**HOSPITAL PHARMACY ATTACHMENT**

This is an experiential learning course where the students who enrolled need to be attached to various pharmacy services units of selected hospitals. The specific units are Out-Patient Pharmacy Services, In-Patient Pharmacy Services, Cytotoxic Drug Reconstitution Services, Parenteral Nutrition Services, Clinical Pharmacokinetics Services, Drug Information Services and Pharmacy Logistic & Management Services. This will enable students to apply prior knowledge in Hospital Pharmacy Practice and the role of hospital pharmacist through observing the actual setting of various hospital pharmacy services with supervised hands-on experience.

PPPP 4231**CLINICAL TOXICOLOGY**

This course introduces the students to the epidemiology, signs and symptoms, the general and specific management of poisoning, roles of poison centres, poisoning preventative measures in special population.

PPPP 4341**E-COMMERCE**

This course is designed to expose students to e-commerce and digital marketing channels, practices and business activities with emphasis on establishment of a business platform. Students will learn key principles of online business operations such as business ideas generation, online business operation, and basic accounting management.

This course provides scientific knowledge related to research and development (R&D) of herbal products focusing on the aspects of safety, quality and efficacy. Students will acquire knowledge of applied know-how and skills in herbal product R&D while performing field work, guided mini project, data analysis and results communication.

This course will familiarise the students with their role in strengthening population health and improvising ways to minimise inequalities in health. This course will reflect the value of public health and how it accords with the role of a pharmacist as a patient educator and policymaker. This course will also highlight the responsibilities of pharmacists in emergency preparedness and disaster management, prevention of non-communicable diseases in the at-risk population, needle exchange programme and point of care testing in community settings. This course is expected to balance pharmacy qualification with an understanding of public health concepts and principles, principal interventions on prevention and mitigation of disease followed by health promotion.

Fees and Funding

<http://www.iium.edu.my/division/finance-division/undergraduate-tuition-fees>