



INTERNATIONAL MEDICAL UNIVERSITY
MALAYSIA

PHARMACEUTICAL CHEMISTRY

SCHOOL OF
PHARMACY

2019



What Is IMU's Pharmaceutical Chemistry Programme About?

Overview

The IMU Pharmaceutical Chemistry is completed in 3 years (6 semesters), and is undertaken entirely at IMU, Malaysia. It is the first programme in Malaysia that provides a complete and specialised training in pharmaceutical chemistry. The curriculum begins with foundation sciences in the early phase, and extends to the applied knowledge and skills associated with drug development activities in the later phase. Internship and research are essential components of the training in this programme.

Graduates from the IMU's BSc (Hons) Pharmaceutical Chemistry will be given credit recognition for certain modules having met the criteria set for certain modules of the Master of Pharmacy programme at the University of Sydney (USYD) and Curtin University. The full-time Master of Pharmacy programme in these universities is 2 years and is registrable for practice as a pharmacist in Australia and Singapore. This qualification is not registrable for practice as a pharmacist in Malaysia at the moment.

DEGREE / DURATION

**Bachelor of Science (Hons)
Pharmaceutical Chemistry
(IMU) * — 3 years**



* This programme is accredited by the Royal Society of Chemistry, UK. It has also received credit recognition from the University of Sydney and Curtin University into their 2-year Master of Pharmacy programme.

COMMENCEMENT

February, July and September

PARTNER UNIVERSITIES

AUSTRALIA



Curtin University

A Word from the Programme Director

“Through this programme, the students will receive a focused and specialised training on various pharmaceutical drug development techniques. The programme will prepare graduates to be well equipped with contemporary knowledge and skills that are prerequisite for a rewarding career in the pharmaceutical and other chemical industry sectors as well as for a postgraduate study in a relevant field.”

DR CHEONG KOK WHYE — Lecturer and Programme Director
BSc (Hons) (UPM), MSc (UPM), PhD (UPM)

How Does the Programme Work?

Pharmaceutical Chemistry Programme Structure

SEMESTER

1

Basic Mathematics and Statistics

Biological Science and Genetics

General Chemistry

Human Biology

Pharmaceutical Organic Chemistry I

MPU-U2 (English for Health Sciences)

SEMESTER

2

Environmental Chemistry and Toxicology

Ethics and Laboratory Safety
General Pharmacology

Pharmaceutical Organic Chemistry II

Pharmaceutics I

Physical Pharmacy

SEMESTER

3

Basic and Applied Microbiology

Introduction to Bioinformatics

Pharmaceutical Analysis I

Pharmaceutics II

Pharmacognosy and Phytochemistry

Synthetic Organic Chemistry

SEMESTER

4

Inorganic Chemistry

Medicinal Chemistry

Pharmaceutical Analysis II

Pharmaceutical Biotechnology

Pharmaceutics III

Polymer Chemistry

MPU-U4 (Social Responsibility)

SEMESTER

5

Heterocyclic Chemistry

Pharmaceutical Analysis III

Pharmaceutical Engineering

Pharmaceutics IV

Pharmacokinetics

Physical Chemistry

SEMESTER

6

Internship

SHORT SEMESTER

Entrepreneurship

Research Methodology

Research Project

MPU SEMESTER

MPU-U1

MPU-U3

The curriculum is reviewed periodically and is subject to change.

The MPU modules are compulsory modules imposed by Ministry of Higher Education under the Private Higher Educational Institutions Act 1996 (Act 555). All students must take these modules and pass as a prerequisite for the award of the degree.

MPU Semesters will be offered at the beginning or end of the degree programme to cater for students of various intakes.

Assessment

Students will be assessed through class tests, practicals, projects, workshops, written reports, logbooks, assignments, portfolios, presentations (oral / poster), dissertation, peer assessments, problem based learning and end-of-semester (EOS) examinations.

Recognition of Degree

The 3-year Pharmaceutical Chemistry degree is accredited by the Royal Society of Chemistry (RSC), United Kingdom, the world's leading chemistry community and professional body committed to advancing excellence in the chemical sciences. This accreditation will improve the visibility and recognition of the IMU Pharmaceutical Chemistry degree and improve the students' chances to go for higher education and obtain employment overseas.

The Pharmaceutical Chemistry graduates from IMU have embarked on various exciting careers after graduating from the programme. Some of them have chosen to pursue their studies in postgraduate degree, at local or overseas universities. These include the Doctor of Philosophy (PhD) and Master degree in areas such as formulation science, drug delivery, polymer chemistry, organic synthesis, pharmaceutical analysis, pharmacy and parasitology, etc.

A few of our graduates work as laboratory analysts in multinational companies in the flavour and fragrance industry, chemical and petroleum industry, and life science industry. Many of our graduates are working as chemists in quality control; as research officers in research and development and as product specialists in local pharmaceutical and chemical industries.

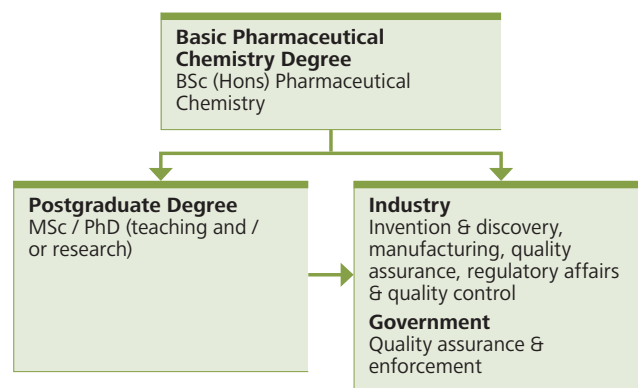
Career Pathway

Pharmaceutical chemistry is an interdisciplinary science that deals with drug design and synthesis, drug formulation and testing, as well as the delivery of drugs in the body. In view of the increase in the occurrence of existing and new diseases, continuous work to discover new drugs with high therapeutic efficacies but minimal side effects is necessary.

Pharmaceutical chemists play a significant role in this global effort in drug discovery and drug development. The pharmaceutical industry is an important component of the healthcare sector and it is growing locally and globally. The demand for pharmaceutical chemist is high and is expected to grow. Pharmaceutical chemists work together with pharmacists as part of the team to develop or manufacture medicines, in quality control, quality assurance, distribution, sales and marketing of medicines. In addition they can also work in other chemical industries.

Pharmaceutical chemists contribute directly to the discovery and development of medicines. They work together with pharmacists and other scientists from a variety of disciplines as well as healthcare professionals in ensuring that high quality pharmaceuticals are developed and produced.

CAREER PATHS FOR PHARMACEUTICAL CHEMISTS



AREAS & SCOPE OF WORK OF PHARMACEUTICAL CHEMISTS

Key Area	Workscope
Pharmaceutical	Research & development, manufacturing, quality control, quality assurance, regulatory affairs, sales & marketing, clinical trial coordinators
Biotechnology	Manufacturing, quality control, quality assurance, sales & marketing
Cosmetics & toiletries	Research & development, manufacturing, quality control, quality assurance
Chemical	Research & development, manufacturing, quality control, quality assurance, sales & marketing
Nutraceutical	Research & development, manufacturing, quality control, quality assurance, sales & marketing
Academia	Research project assistants, instructors for undergraduate classes
Government agencies	Quality control, quality assurance, enforcement

Why Study Pharmaceutical Chemistry at IMU?

1

An Established Private Healthcare University

IMU is Malaysia's first and most established private medical and healthcare university with over 26 years of dedicated focus in healthcare education. IMU achieved the SETARA-2017 Tier 6 status (Outstanding) under the Mature University category.

2

Build Your Future Healthcare Professional Network

As IMU offers the widest range of healthcare programmes, our students are fully immersed in a vibrant community of students and practitioners from all healthcare fields. This allows for the development of strong friendship amongst peers that will be the foundation of an extensive healthcare professional network upon graduation.

3

First Malaysian University Offering This Undergraduate Programme

IMU is the first university in Malaysia that provides a complete and specialised undergraduate training in pharmaceutical chemistry.

4

Curriculum Benchmarked to International Standards

IMU's Pharmaceutical Chemistry curriculum has been developed to meet high international standards and is accepted by University of Sydney and Curtin University for credit exemption in their 2-year Master of Pharmacy programme. The IMU Pharmaceutical Chemistry programme is accredited by the Royal Society of Chemistry (RSC), United Kingdom, the world's leading chemistry community and professional body, which advances excellence in the chemical sciences.

5

Better Preparation to Become Chemists in the Pharmaceutical Industry and Other Related Industries

With exposure to industrial attachment for 16 weeks, students will gain valuable industrial experience and develop their professional network, giving the graduates an advantage in their careers.

How Much Does It Cost?

Pharmaceutical Chemistry Programme Fees

All fees quoted are in Ringgit Malaysia unless stated otherwise.

FEES OVERVIEW

Fee	Amount (RM)	
	Malaysian Student	International Student
Application Fee	150	500
Registration Fee	850	2,000
Refundable Caution Deposit	1,000	1,000
Tuition Fee	111,000	117,300

- Application fee is payable upon submission of application.
- Registration fee and refundable caution deposit are payable upon acceptance of the offer letter issued by the IMU Admissions Office.
- As stipulated by Malaysian Ministry of Higher Education, international students will have to pay Student Visa Application fee of RM1,000 and Medical Health Check fee of RM250 and Visa endorsement fee (depending on nationality) upon registration.
- International students will also be required to pay Student Visa Renewal Administrative fee of RM140/year and Medical Health Check fee of RM250/year.
- Students must adhere to the "Policy on Payment of Fees".
- All students are required to pay Student Association Fee of RM40 per semester.

FEES BY PROGRAMME ROUTES

Programme Route	Total Duration (years)		At International Medical University (IMU)						At Partner University (PU)				At IMU + PU	
			Years	Total Semesters	Tuition Fee				Years	Total Semesters	Tuition Fee *		Total Tuition Fees **	
					Per Semester		Total				Per Year	Total		
					Malaysian Student	International Student	Malaysian Student	International Student					Malaysian/International Student	Malaysian/International Student
Bachelor of Science (Hons) Pharmaceutical Chemistry (IMU)	3	3	6	18,500	19,550	111,000	117,300	–	–	–	–	–	–	
Credit Transfer to University of Sydney Master of Pharmacy (MPharm)	5	3	6	18,500	19,550	111,000	117,300	2	4	A\$49,000	A\$98,000	406,568	412,868	
Credit Transfer to Curtin University Master of Pharmacy (MPharm)	5	3	6	18,500	19,550	111,000	117,300	2	4	A\$42,850	A\$85,700	369,471	375,771	

Note

* Current estimates only.

** Based on exchange rates: A\$1 ≈ RM3.016

• Tuition and ancillary fees at partner universities overseas are subject to annual increases.

• All fees are accurate at time of print. For latest fees and information, please go to www.imu.edu.my.

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Programmes at IMU

Pre-University

Foundation in Science
KPT/JPT(R/010/3/0186)09/2023

Undergraduate

Medicine
KPT/JPT(R2/721/6/0033)09/2026

Psychology
KPT/JPT(R2/311/6/0013)09/2022

Dentistry
KPT/JPT(R2/724/6/0010)01/2023

Pharmacy
KPT/JPT(R2/727/6/0050)09/2026

Pharmaceutical Chemistry
KPT/JPT(R2/442/6/0003)01/2023

Dietetics with Nutrition
KPT/JPT(R2/726/6/0021)09/2022

Nutrition
KPT/JPT(R/726/6/0011)06/2022

Biomedical Science
KPT/JPT(R2/421/6/0011)09/2022

Medical Biotechnology
KPT/JPT(R2/545/6/0014)09/2022

Chiropractic
KPT/JPT(R/726/6/0054)08/2026

Chinese Medicine
KPT/JPT(R/721/6/0059)01/2020

Nursing
KPT/JPT(R/723/6/0125)04/2020

Nursing Science
(for registered nurses)
KPT/JPT(R/723/6/0101)01/2019

Postgraduate

Acupuncture (MSc)
KPT/JPT(N/721/7/0071)03/2022

Analytical & Pharmaceutical
Chemistry (MSc)
KPT/JPT(R-CDL/442/7/0001)01/2022

Business Administration in
Healthcare Management
(Postgraduate Certificate/Master)
KPT/JPT(N/345/7/1082)9/2023
KPT/JPT(N/345/7/1085)10/2023

Diabetes Management & Education
(Postgraduate Diploma)
KPT/JPT(N/726/7/0030)02/2023

Health Professions Education (HPE)
(Postgraduate Certificate/
Postgraduate Diploma/Master)
KPM/JPT(N/145/7/0066)09/2020
KPM/JPT(N/145/7/0064)09/2020
KPM/JPT(N/145/7/0070)09/2020

Implant Dentistry (Postgraduate Diploma)
KPT/JPT(N/724/7/0019)06/2021

Molecular Medicine (MSc)
KPT/JPT(R/545/7/0078)07/2022

Pharmacy Practice (Master)
KPT/JPT(N/727/7/0051)03/2019

Public Health (MSc)
KPT/JPT(R/720/7/0077)09/2020

Medical & Health Sciences
(MSc & PhD by Research)
KPT/JPT(R/721/8/0043)01/2020
KPT/JPT(R2/720/7/0049)06/2026



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The IMU has been certified with ISO 9001: 2015 for the provision of Pre-University, Undergraduate and Postgraduate Programmes for the Medical and Healthcare Professions.

Every effort has been made to ensure the accuracy of the information given in this brochure but it is subject to alteration without notice.

The University reserves the right to alter or delete any of the information included at any time and it shall not be bound by any errors or omissions and cannot accept liability in respect thereof.

Please visit www.imu.edu.my for the most up-to-date information.

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