

PHARMACEUTICAL CHEMISTRY

KPT/JPT(R3/442/6/0003)01/2028 | MQA/A8229

Find your niche in the evolution of medical breakthroughs

Studying Pharmaceutical Chemistry offers compelling advantages in both scientific exploration and breakthroughs that elevate healthcare and enrich our daily lives. This field equips students with a understanding of drug discovery, design, synthesis, and development, empowering you to make substantial contributions to the advancement of medicine. A first-of-its-kind degree, it provides a rigorous study of pharmaceutical sciences and applied chemistry, combined with the learning of primary applications of data analytics, pharmaceutical engineering and biotechnology. Through the tutelage of leading academics and hands-on experience, you will develop the essential skills needed to excel in a growing industry, with options to transfer to universities in the UK and Australia. Come be a part of new and exciting discoveries.

◆ Assessment

The assessment tools are designed to best suit the nature of each module. Assessments (formative and summative), such as practicals, practical skill assessments, practical exams, written tests, assignments, projects, PBL, and presentations, are integral parts of the programme. The programme also emphasises skill-based learning through over 300 hands-on practical hours, a 4-month internship, and a dedicated semester for research projects.

Student competencies will be systematically assessed and guided, ensuring a smooth progression to subsequent semesters.

Degree / Duration

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

Degree from Partner Universities
3 – 5 years

Commencement

Feb / Apr / Jul / Sep

Partner Universities

Australia



United Kingdom



Accreditation



ROYAL SOCIETY
OF CHEMISTRY

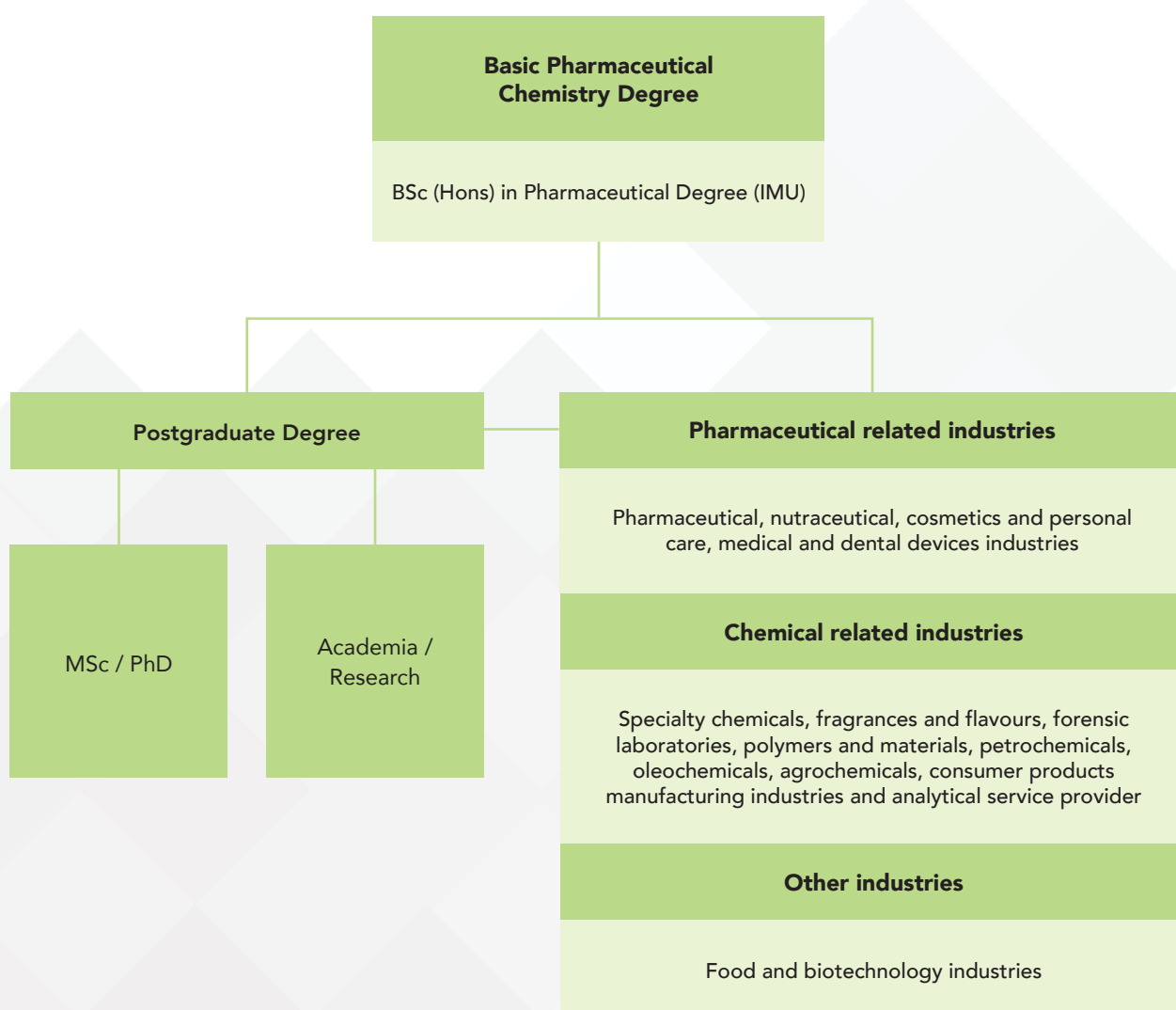
ACCREDITED
DEGREE

This programme is accredited by Malaysian Qualifications Agency (MQA) and The Royal Society of Chemistry, UK. The programme is also recognised by Malaysian Institute of Chemistry (Institut Kimia Malaysia, IKM). *It has received credit recognition from the University of Sydney (USYD) into their 2-year Master of Pharmacy programme. The partnership with USYD allows our graduates to become registered pharmacists in Australia, New Zealand, and Singapore. This programme is also in partnership with University of Dundee (UoD).

◆ Career Pathways

The demand for pharmaceutical chemists is high and expected to grow. The programme's interdisciplinary nature creates diverse career opportunities in sectors including but not limited to chemical substances, pharmaceuticals, cosmetics, fragrances, oleochemicals, petrochemicals, and agrochemicals. Areas of involvement include formulation and analysis, research and development, manufacturing, quality assurance and quality control, regulatory affair, clinical research associates, business development, product specialists, patent work, and forensic science, just to name a few. Pharmaceutical chemists are key in the ongoing global effort of new drug discoveries and medical breakthroughs.

◆ Career Paths for Pharmaceutical Chemists



Degree Recognition

The programme was launched in 2008 and is fully accredited by the Malaysian Qualifications Agency (MQA), Ministry of Higher Education (MoHE), The Royal Society of Chemistry (RSC), the United Kingdom, and recognised by the Institut Kimia Malaysia (IKM). The programme is in partnership with the University of Dundee in Scotland and The University of Sydney in Australia. IMU graduates are eligible to register with professional chemistry bodies such as Institut Kimia Malaysia (IKM), Royal Society of Chemistry (RSC) in UK, American Chemical Society (USA), European Chemical Society (EuChemS) and International Pharmaceutical Federation (FIP), among others.

A Pharmaceutical Chemist's Scope of Work

| Key Area | Workscope |
|---|---|
| Pharmaceutical | Research and development, manufacturing, quality control, quality assurance, regulatory affairs, product specialists, clinical trial coordinators |
| Nutraceutical | Research and development, manufacturing, quality control, quality assurance, product specialists |
| Cosmetics and toiletries | Research and development, manufacturing, quality control, quality assurance |
| Chemical | Research and development, manufacturing, quality control, quality assurance, product specialists |
| Food and Biotechnology | Manufacturing, quality control, quality assurance, product specialists |
| Academia | Research project assistants, instructors for undergraduate classes |
| Government Agencies | Quality control, quality assurance, enforcement research and development |
| Analytical Service Provider and Analytical Instrument | Analytical chemists, application chemists, service engineers, and product specialists |

Our Alumni

Our alumni have embarked on diverse and promising career paths across various industries. Our graduates are a true testament to the versatility of their education, as they continue to excel in a wide range of professional healthcare fields. Scan the QR code to see where our graduates are today.

Scan here



Programme Structure

| Semester 1 | Semester 2 | Semester 3 | Semester 4 |
|--|--|--|--|
| <u>Basic Mathematics and Statistics</u> <u>Biological Science</u> <u>General Chemistry</u> <u>Human Biology</u> <u>Pharmaceutical Organic Chemistry I</u> <u>General Pharmacology</u> <u>MPU-U2 (Academic Communication)</u> | <u>Environmental Chemistry & Toxicology</u> <u>Ethics & Laboratory Safety</u> <u>Cosmeceuticals</u> <u>Pharmaceutical Organic Chemistry II</u> <u>Data Analytics I</u> <u>Formulation Science</u> | <u>Basic and Applied Microbiology</u> <u>Data Analytics II</u> <u>Pharmaceutical Analysis I</u> <u>Pharmaceutics I</u> <u>Pharmacognosy & Phytochemistry</u> <u>Synthetic Organic Chemistry</u> | <u>Inorganic Chemistry</u> <u>Medicinal Chemistry</u> <u>Pharmaceutical Analysis II</u> <u>Pharmaceutical Biotechnology</u> <u>Pharmaceutics II</u> <u>Polymer Chemistry</u> <u>MPU-U4 (Social Responsibility)</u> |
| Semester 5 | Semester 6 | Short Semester 7 | MPU Semester 8 |
| <u>Heterocyclic Chemistry</u> <u>Pharmaceutical Analysis III</u> <u>Pharmaceutical Engineering</u> <u>Pharmaceutics III</u> <u>Pharmacokinetics</u> <u>Physical Chemistry</u> | <u>Internship</u> | <u>Entrepreneurship</u> <u>Research Methodology</u> <u>Research Project</u> | <u>MPU-U1</u> <u>MPU-U3</u> |

Curriculum is reviewed periodically and subject to change.

MPU modules are compulsory, imposed by the Ministry of Higher Education under the Private Higher Educational Institutions Act 1996 (Act 555)

- Every student must pass all modules as a prerequisite for the awarding of the degree.

Study Duration and Transfer Requirements

| Track 1 | | | |
|----------------------------------|--|-----------------------------|---------------|
| University | Duration of Pharmaceutical Chemistry Programme | | |
| | Years in IMU | Years at Partner University | Total (Years) |
| Malaysia | | | |
| International Medical University | 3 | - | 3 |

| Track 2 | | | |
|----------------------|---------------------------|-----------------------------|---------------|
| University | Duration of the Programme | | |
| | Years in IMU | Years at Partner University | Total (Years) |
| United Kingdom | | | |
| University of Dundee | 1* | 2 | 3 |

Completion of IMU Foundation in Science (one year) is a prerequisite to this pathway.

Degrees from Partner University under Track 2:

Students under this track can transfer to the University of Dundee for the completion of their undergraduate Bachelor degree. Students will obtain one of the following degrees:

BSc (Hons) Biochemistry
BSc (Hons) Biological Chemistry and Drug Discovery
BSc (Hons) Biological Sciences
BSc (Hons) Biomedical Sciences
BSc (Hons) Microbiology
BSc (Hons) Molecular Biology
BSc (Hons) Molecular Genetics
BSc (Hons) Neuroscience
BSc (Hons) Pharmacology
BSc (Hons) Physiological Sciences

| Track 3 | | | |
|----------------------|---------------------------|-----------------------------|---------------|
| University | Duration of the Programme | | |
| | Years in IMU | Years at Partner University | Total (Years) |
| United Kingdom | | | |
| University of Dundee | 1* | 3 | 4 |

Completion of IMU Foundation in Science (one year) is a prerequisite to this pathway.

Degrees from Partner University under Track 3:

This track gives students the opportunity to transfer to University of Dundee for the completion of their Integrated Master of Science degree. Students will obtain one of the following degrees:

MSci Biological Sciences
MSci Biological Chemistry and Drug Discovery
MSci Microbiology
MSci Molecular Genetics
MSci Pharmacology
MSci Physiological Sciences
MSci Biochemistry
MSci Molecular Biology
MSci Biomedical Sciences
MSci Neuroscience

| Track 4 | | | |
|----------------------|---------------------------|-----------------------------|---------------|
| University | Duration of the Programme | | |
| | Years in IMU | Years at Partner University | Total (Years) |
| United Kingdom | | | |
| University of Dundee | 1* | 3 | 4 |

*Completion of IMU Foundation in Science (one year) is a prerequisite to this pathway.

Degrees from Partner University under Track 4:

This track gives students the opportunity to transfer to University of Dundee for the completion of their undergraduate Bachelor and Master degree. Students will obtain one of the following degrees:

BSc (Hons) Biochemistry
BSc (Hons) Biological Chemistry and Drug Discovery
BSc (Hons) Biological Sciences
BSc (Hons) Biomedical Sciences
BSc (Hons) Microbiology
BSc (Hons) Molecular Biology
BSc (Hons) Molecular Genetics
BSc (Hons) Neuroscience
BSc (Hons) Pharmacology
BSc (Hons) Physiological Sciences

Postgraduate Degrees (1 year)

MSc by Research
MSc Biomedical and Molecular Sciences
MSc Biomedical and Molecular Sciences with Business
MSc Biomedical and Molecular Sciences with Management
MSc Biomedical and Molecular Sciences with Entrepreneurship
MSc Biomedical and Molecular Sciences with Marketing

| Track 5 | | | |
|----------------------|---------------------------|-----------------------------|---------------|
| University | Duration of the Programme | | |
| | Years in IMU | Years at Partner University | Total (Years) |
| Australia | | | |
| University of Sydney | 3 | 2 | 5 |

Graduates from IMU's BSc (Hons) in Pharmaceutical Chemistry will be given credit recognition for certain modules in the Master of Pharmacy programme at the University of Sydney (USYD).

Programme Fees

Fees Overview

All fees quoted are in Ringgit Malaysia unless stated otherwise.

| FEE | AMOUNT (RM) | |
|----------------------------|-------------------|-----------------------|
| | Malaysian Student | International Student |
| Application Fee | 150 | 500 |
| Registration Fee | 850 | 2,000 |
| Refundable Caution Deposit | 1,000 | 1,000 |

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 the Malaysian Ministry of Education, international students are required to pay Student Visa Application fee of RM2,500 AND personal bond (depending on nationality) upon registration • International students will also be required to pay Student Visa Renewal fee every year • Students must adhere to the "Policy on Payment of Fees" • All students are required to pay Student Association Fees of RM40 per semester • All tuition and ancillary fees are subject to annual increases, currency exchange rates, and exclusive of levy and bridging fees (if any) • Application fee and Registration fee is non refundable • All students who are applying for the National Higher Education Fund (NHEF) loans are required to pay their semester fees in FULL by the due date stated in the invoice

Tuition Fees

| | Total Duration (years) | At International Medical University (IMU) | | | | | | At Partner University (PU) | | |
|---|------------------------|---|-----------------|-------------------|----------|-----------------------|----------|--|-----------------|---|
| | | Years | Total Semesters | Tuition Fee | | | | Estimated Tuition Fees at Partner University | | |
| | | | | Malaysian Student | | International Student | | Years | Total Semesters | Tuition Fee Per Year |
| | | | | Per Semester | Per Year | Per Semester | Per Year | | | |
| Bachelor of Science (Hons) in Pharmaceutical Chemistry (IMU) | 3 | 3 | 6 | 21,000 | 42,000 | 22,000 | 44,000 | - | - | - |
| Credit transfer to University of Dundee (Undergraduate degree) | 3* | 1 | 2 | 21,000 | 42,000 | 22,000 | 44,000 | 2 | 4 | GBP 24,800 |
| Credit transfer to University of Dundee (Integrated Masters degree) | 4* | 1 | 2 | 21,000 | 42,000 | 22,000 | 44,000 | 3 | 6 | GBP 24,800 |
| Credit transfer to University of Dundee (Postgraduate) | 4* | 1 | 2 | 21,000 | 42,000 | 22,000 | 44,000 | 3 (2 years BSc + 1 year MSc) | 6 | GBP 24,800 (BSc) GBP 24,800 (MScBMS) GBP 20,900 (MScBMSw) GBP 28,385 (MSc by Research) |
| Credit Transfer to University of Sydney Master of Pharmacy (MPharm) | 5 | 3 | 6 | 21,000 | 42,000 | 22,000 | 44,000 | 2 | 4 | AUD 59,500 |

*It is compulsory to complete the one-year IMU Foundation in Science prior to embarking on this pathway. Fees for Foundation in Science is RM29,400.

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The IMU has been certified with ISO21001:2018 and ISO 45001:2018 for the provision of Pre-University, Undergraduate and Postgraduate Programmes for the Medical and Healthcare Professions.



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