School of Pharmaceutical Sciences

MASTER OF PHARMACY
(CLINICAL PHARMACY)

Student Guide
2020/2021

Edited by:

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SCHOOL OF PHARMACEUTICAL SCIENCES

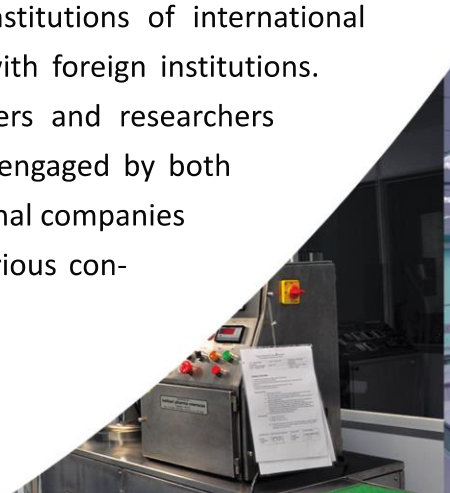
Leading pharmacy education

QS WORLD UNIVERSITY RANKINGS by subject

2018 WORLD RANK #51-100
Pharmacy & Pharmacology
#1 IN MALAYSIA

PHARMACISTS are health professionals who are trained in the practice of pharmacy and pharmaceutical sciences. They are well equipped with detailed knowledge of drugs to ensure safe and effective use of medications in patients. Pharmacists also utilise their scientific knowledge in the design and development of drugs. In Malaysia, pharmacists are employed not only in community pharmacy and hospital pharmacy but also in pharmaceutical industry, regulatory and drug management, academic activities and research.

THE SCHOOL OF PHARMACEUTICAL SCIENCES, established in 1972 and being the first pharmacy school in the country, is pioneering state-of-the-art integrated and multidisciplinary approach in teaching and learning encompassing six key disciplines, namely pharmaceutical chemistry, pharmaceutical technology, pharmacology, clinical pharmacy, social and administrative pharmacy and physiology to train and prepare our pharmacy graduates to keep up with the ever-changing pharmacy practice and stay relevant in the industry. Apart from lectures and lab works, the students have the opportunities to undergo experiential learning in clinical settings, making learning relatable to the students. Today, we have a strong research collaboration with local institutions of international repute as well as with foreign institutions. Besides, our lecturers and researchers have been actively engaged by both local and multinational companies and institutes in various consultation works.



Master of Pharmacy (MPharm)
School of Pharmaceutical Sciences
Universiti Sains Malaysia

VISION

The School of Pharmaceutical Sciences envisions to become a global centre of excellence for sustainable and innovative pharmaceutical education, research and practice for the wellness of the society

MISION

The School of Pharmaceutical Sciences is committed to producing professional, innovative and competitive graduates to meet the needs of the pharmacy profession and enhance consultancy, trans-disciplinary research and global collaboration for sustainable development and empowerment of society

MASTER OF PHARMACY (CLINICAL PHARMACY) CURRICULUM

The MPharm programme begins early September, at the commencement of the University's academic year. It is divided into two components, didactic lectures and clerkships. The didactic component comprises 2-4 unit courses in pathophysiology and therapeutics, clinical pharmacy practice, biostatistics and clinical pharmacokinetics. These courses will be conducted in four modules and complemented with five required clinical clerkships throughout the academic year. This comprises 20 units of the didactic courses and 20 units of the coursework (12 units of the required and 8 units of research dissertation, respectively).

Students have to register for all the didactic courses, required clerkships and carry out a research component.

Course Structure

Clinical Clerkships

Code-Unit	Clerkships
FCP 561.40	Internal Medicine
FCP 562.20	Surgery
FCP 563.20	Intensive Care Medicine
FCP 564.20	Pediatrics
FCP 565.20	Infectious Disease

Didactic Courses

- **First Semester**

Code-Unit	Courses
FCP 551.40	Pharmacotherapeutics I
FCP 558.20	Clinical Pharmacy Practice
FCP 559.20	Biostatistics, Study Design & Clinical Pharmacokinetics
FCP 560.20	Clinical Pharmacokinetics

- **Second Semester**

Code-Unit	Courses
FCP 552.20	Pharmacotherapeutics II
FCP 553.40	Pharmacotherapeutics III
FCP 555.20	Pharmacotherapeutics IV
FCP 557.20	Pharmacotherapeutics V

Course Description

FCP 551.40 - Pharmacotherapeutics I covers the pathophysiologic and therapeutic aspect of cardiovascular and respiratory diseases. The main emphasis is to provide baseline knowledge of cardiovascular and respiratory problems sufficient to understand the rationale for various therapeutic strategies. The commonly accepted therapeutic drug regimens will be presented as well as to define appropriate doses, reasonable therapeutics goals, necessary monitoring parameters, clinically significant drug-drug interactions and adverse effects of the various cardiovascular and respiratory drugs.

FCP 552.20 - Pharmacotherapeutics II covers the pathophysiologic and therapeutic aspect of renal diseases. The main emphasis is to deal with the pharmacotherapeutics management of both acute and chronic renal failure, acid-base and electrolyte disorders, glomerular diseases as well as to identify and solve drug-induced renal diseases. The various methods of dosing regimen design in renal disorders and dialytic therapy will be covered in great detail.

FCP 553.40 - Pharmacotherapeutics III covers the pathophysiologic and therapeutic aspect of gastrointestinal, endocrine, arthritis and infectious diseases. The main emphasis is to understand the rationale for various therapeutics strategies. The main therapeutic classes of drug covered include H2-receptor antagonists and other antiulcer agents, antithyroids drugs, thyroid hormones preparations, oral hypoglycemic agents, insulin preparations, antimicrobial agents, non-steroidal antiinflammatory drugs, antigout, and specific drugs for endocrine disorders.

FCP 555.20 - Pharmacotherapeutics IV covers the pathophysiologic and therapeutic aspect of neurological and psychiatric disorders. The main emphasis is to provide the knowledge of the common neurological disorders and psychiatric illnesses sufficient to understand the rationale for various therapeutics strategies. The main therapeutic classes of drug covered include the antiepileptic agents, antiparkinsonism, antiplatelets, antipsychotic agents, antidepressants, antimania, and agents used for headache and migraine.

FCP 557.20 - Pharmacotherapeutics V covers the pathophysiologic and therapeutic aspect of neoplastic diseases and the common hematologic disorders. The main emphasis is to give the students a broad perspective on the clinical use of the various antineoplastic agents particularly those agents for which pharmacokinetic monitoring is clinically useful. Other therapeutic classes of drug covered include the antianemics, thrombolytic and anticoagulants.

FCP 558.20 - Clinical Pharmacy Practice gives a broad perspective on the profession and the practice of clinical pharmacy. The philosophy of pharmaceutical care will be introduced and developed. The main emphasis of this course is to provide the students with the pharmaceutical care skills in delivering the various pharmacy services.

FCP 559.20 –Biostatistics and Research Methodology has two main components, research methodology and biostatistics or application of data analysis. The first component will introduce student to the fundamental of design and methodology in research. The main purpose is to build the ability of the students in systematic proposal writing, literature review and critical appraisal of literature. The second component emphasis on the basic and advance concepts of statistics medical research. It aims to build ability on applying basic statistical concepts in making inferences from experimental and survey data to day to day clinical pharmacy practice. The course would emphasize understanding of statistical procedures, how to choose correct statistical procedure, identify violations of statistical assumptions and how to interpret statistical results.

FCP 560.20- Clinical Pharmacokinetics covers the knowledge and the skills on the application of concepts and techniques of pharmacokinetics, pharmacodynamics and concept of personalized medicine to the rational design of individualized dosage regimen. Students will be given perspective of the importance of new areas like pharmacogenomics and metabolomics and how these can influence the therapeutic aspects.

Research project and dissertation

- Students will be given approximately a month to come up with a proposal at the beginning of the research track. Student will be given two months to gather data and present at the end of the period given
- A clinical pharmacy lecturer will be assigned as supervisor & academic advisor.
- No change in supervisor is allowed unless agreed by both supervisors.
- Main supervisors are from clinical pharmacy discipline.
- Dissertation must follow the standard format and must be handed in at the end of the research period.
- Article (journal) write-up is needed.

ASSESSMENT

Theory

- 100% exam
- Repeat/Remedial
  - All papers below C+
  - During 3rd semester

Clerkship/Research

- Presentation/Viva 40%
- Continuous assessment/Reports/Dissertation 60%

GRADUATION REQUIREMENT

Theory/Didactic (8)	20 units
Required Clerkship (5)	12 units
Research/Dissertation	8 units
TOTAL	**40 units**

- Passing mark for each paper/course is **C+**
- Overall cGPA of **3.0** and above

DURATION

Full-time: Min 12 months / Max 24 months