



**MASTER IN  
PHARMACY  
(BY RESEARCH)**

KPT/JPS (R/727/7/0045) (MQA/FA3399) 10/23

**FACULTY OF  
PHARMACY**



**MAHSA  
UNIVERSITY**

The Faculty of Pharmacy, Mahsa University is offering postgraduate programme leading to Master In Pharmacy (N/727/7/0045) (MQA/PA 3399) by research only. The degree will be awarded on the successful examination of a thesis based on original research. The faculty offers a wide choice of research areas (see Programme Outline). There is a coursework component to this degree, consisting of a Research Methodology unit of study, but by no means is it a major component.

The research areas are:

- Medicinal Chemistry**
- Pharmacognosy**
- Pharmaceutical Microbiology**
- Dosage Form Design**
- Pharmacy Practice**
- Clinical Pharmacy**
- Scientific Basis of Therapeutics**

## PROGRAMME STRUCTURE

### 1 MEDICINAL CHEMISTRY

Synthesis & characterization of biological active New Chemical Entities bearing five or six member heterocyclic ring system; Pharmacological Evaluation of any synthesized compounds; Isolation & characterization of active constituent in the plant origin; Development of Analytical methods for the API's & Dosage Forms; Toxicological studies; Stability study of herbal preparation; HPLC analysis of pharmaceutical and biological sample; Identifying new chemical entity for chemoprevention and cancer therapy; Molecular modeling and analyzing interactions of ligand on the receptor binding sites; Toxicological Profiling of Non-allopathic preparations; HPLC Method development for Drugs and other toxic agents; Natural product analysis.

### 2 PHARMACOGNOSY

Phytochemical screening of medicinal plants; Isolation, Phytochemical screening, characterisation and pharmacological screening of anti-hyperglycemic activity, hepatoprotective activity; cytotoxicity assessment of medicinal plants belonging to the species: Pereskia, Ximenia, Syxygium, and Synsepalum.

### 3 PHARMACEUTICAL MICROBIOLOGY

Screening of plant extract from Malaysian herbs for its antimicrobial and anticancer activity; Isolation and identification of indoor microorganisms isolated from a building.

### 4 DOSAGE FORM DESIGN

Natural product analysis; Transdermal drug delivery; In vitro skin permeation cells (Franz' diffusion cell); Instrumentation analysis; development and validations (UV spectrometry, GC, RP- HPLC etc); Cosmeceutical; Pharmaceutical technology (product development); Product analysis- formulation developments and evaluation, disintegration, dissolution; Preformulation (drug development feasibility with new molecules; physico-chemical characterization; solubility and stability assessment and improvement; polymorphism; drug-drug and drug-excipient compatibility; data for new drug applications (IND and NDA)); Conventional and Novel Delivery Systems (including patentable non-infringing platform technologies: nanotechnology (lipid nanospheres, nanoemulsion and solid lipid nanoparticles) for anticancer drug delivery and tumour targeting; vaginal and rectal microbicides and anti-infectives including film, tablet, capsule, gel, cream, and foam formulations; solid, semisolid and liquid dosage forms; implants and conducting polymers; taste masking and mouth dissolving preparations; bioadhesive preparations for buccal and vaginal administration; extemporaneous compounding; complementary medicines; cosmetics; osmotic and matrix oral delivery systems; brand v/s generic products comparison and development); Novel Veterinary Formulations (including drug combinations and extended release preparations); Herbal preparations, Probiotics; Development of new pharmaceutical excipients; Oral controlled drug delivery systems of natural and synthetic polymers.

### 5 PHARMACY PRACTICE

Pharmacy Practice, Pharmacoepidemiology, Communication, Social Pharmacy, Pharmacy Management; Health Related Quality of Life measurements and analysis; Pharmacoeconomics; Pharmacoinformatics; Community pharmacy practices; Smoking Cessation Research; Managing Minor Skin Ailments in Community Pharmacy; Health Counsel-ling; Awareness of Drug Usage and Medication in community; Behavioural Medication Usage Study.

### 6 CLINICAL PHARMACY

Pharmacists' participation in the care of patients; Medicine Therapy Management (diabetics, cardiovascular, warfarin management); Chemotherapy Drug Management; ICU Drug Management; Paediatric Drug Management; Pharmacoeconomics; Behavioural Medication Usage Study.

### 7 SCIENTIFIC BASIS OF THERAPEUTICS

Transposon-mediated mutagenesis, PCR-directed mutagenesis, egfp-gene tagging, fluorescence microscopy, gene cloning, PCR, RT-PCR, phospholipid extraction & TLC, Southern blot, disc diffusion assay, chemical synthesis, NMR, bioinformatics and molecular modelling (virtual screening of compound libraries, protein-ligand docking); Bio-analytical method development using HPLC; Pharmacological screening of medicinal plants; Pharmacological screening of synthetic drugs; Antimicrobial studies on medicinal plants; preclinical pharmacokinetic studies, screening for anti-psoriatic-cancer compounds using bioassay and pre-clinical experimental cancer chemotherapy.

# WHY STUDY AT MAHSA



Dynamic & Industry Relevant Curriculum



Interactive & Problem-Based Learning



Flexible Learning & Weekend Classes



Experienced Academic Staff



Online Learning Systems

# PROGRESSION PATHWAY



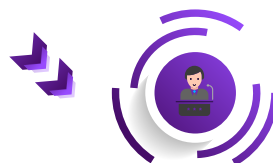
BACHELOR'S DEGREE



MASTER IN PHARMACY



PHD



EMPLOYMENT

# ENTRY REQUIREMENTS

## Academic Qualifications

Bachelor's Degree

## Requirements

Minimum CGPA 2.75 from universities recognized by the Senate of MAHSA University

Pass with CGPA 2.50 from universities recognized by the Senate of MAHSA University can be accepted based on detailed evaluation

Relevant pharmacy area with CGPA lower than 2.50 or its equivalent from universities recognized by the Senate of MAHSA University can be accepted with minimum 5 years working experience in the relevant field

Relevant pharmacy area with a First Class from any universities recognized by the Senate of MAHSA University

Minimum CGPA 3.57 who have registered as students may apply to convert to PhD research programme with the following conditions: - Have shown competency and ability to do research equivalent to PhD research programme AND - Approved by the University Senate

Other equivalent qualifications approved by the Senate of MAHSA University

## CAREER OPPORTUNITIES

Healthcare services and pharmaceutical industries

- Pharmacy specialise
- **Clinical pharmacy**
- **Monarch**
- **Development organisations**

Teaching institutions



# MAHSA360

At MAHSA University, we provide our students with the opportunity to develop quality skills and understanding that go beyond their field of study which will prepare them for their next leap upon graduation.

MAHSA 360 is our specially designed ecosystem that works to ensure every student is nurtured and supported throughout their student journey.



## MAHSA'S PASSPORT TO SUCCESS



Professional Industry-Driven Education (P.R.I.D.E) is MAHSA University's specially designed education pathway that give students the best of both academic and professional certifications. Students have the opportunity to gain professional skills through various programmes from MAHSA's collaborations with internationally recognised professional bodies. P.R.I.D.E increases the employability rate of our fresh graduates and puts them on par with the rest in the professional world.

### MASTERCLASS

Students of this programme are eligible to gain add-on certification in Masterclasses. There are more than fifty Masterclasses to choose from, and all are designed to further enhance the student's employability, in line with the Industrial Revolution 4.0.

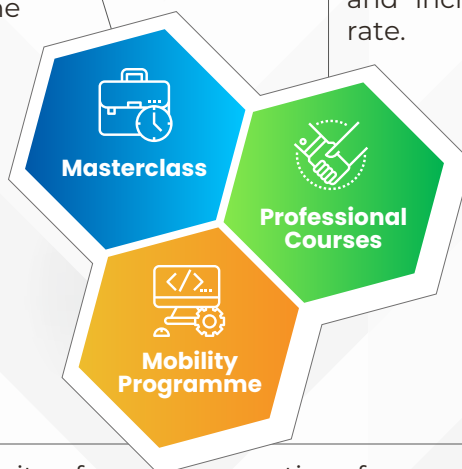
### PROFESSIONAL COURSES

Through MAHSA's collaboration with internationally recognised professional bodies, students will earn certifications that will enhance their professional skills and increases their employability rate.

### MOBILITY PROGRAMME

This is a unique opportunity for students to study abroad for up to one year. This programme lets students experience different cultures and

practices from around the world. Ask us about our university partners in over fifty different countries.





# MAHSA

U N I V E R S I T Y

# BE MORE



Football Field



Residences



Pharmacy Lab



The Habitat



Library



Skills Laboratory

Contact us  
**1800 88 0300**

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🌐 [www.mahsa.edu.my](http://www.mahsa.edu.my)

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