

Faculty of Pharmacy



Prof. Dr. Muhammad Jamshaid
Dean

It is my privilege to serve as Dean for this prestigious Faculty of Pharmacy, University of the Central Punjab, Lahore. Our university is one of the leading universities to develop your career and to make you a precious asset of the country. In order to meet the challenges of tomorrow, the university is trying to provide high standard professional education in a very conducive environment to all our students. Faculty of Pharmacy is home to world-class faculty, dedicated students and innovative researchers working towards improving medications and medication-related health outcomes.

After the recognition of Pharmacy education by Pharmacy Council of Pakistan and Higher Education Commission in 2011, our faculty has made enormous strides in meeting specific needs of both students and community, exploring new frontiers in drug discovery and development, pharmaceutical sciences, and translational clinical research. These labours have led to more than 30 manuscripts in the past three years. Here at the faculty, we value innovation, learning, advancement of knowledge, research and its applications toward improving the use of medications in society, pharmaceutical care and professionalism. Diversity in all of its forms is the core thought of faculty's research and development. We continually endeavour to augment our betterment and extend our national and international influence through quality education and research. We welcome your comments and suggestions for improvement of pharmacy education and research. I will expect you to participate in all healthy and academic activities of the faculty as well as the university.

I invite you to travel with us into a very illuminated future.

Department of Pharmacy



Dr. Mahmood Ahmad
HoD

HoD's Message

Faculty of Pharmacy was established at the University of Central Punjab in recognition of the vital role played by the pharmacist in the health care system and to meet the National/ International needs of the pharmacists and to develop the pharmacy profession in Pakistan. The Faculty has established the state of the art infrastructure in accordance with the guidelines of the Pharmacy Council of Pakistan. Initially, the Faculty is offering a five-year Doctor of Pharmacy Program (Pharm.D), which is recognized by the Higher Education Commission of Pakistan and is accredited by the Pharmacy Council of Pakistan.

The university has also started M.Phil. in Pharmacy (Pharmaceutics). Whereas, postgraduate programs in various disciplines of pharmacy are in progress. Faculty holds the mission to provide the holistic study with intellectual, social, cultural and physical development. Students are encouraged to develop knowledge, values and skills which will enrich their lives and prepare them to provide services to national and international communities. It has a vision to be recognized nationally and internationally for the innovation and excellence in pharmacy education, and contributions to advancing pharmacy practice. Faculty is striving hard to produce highly productive pharmacists, who not only fulfill the needs of local market but also become an important asset to international communities.

Accreditation Status

All batches graduated from the Faculty of Pharmacy with Pharm.D degree are accredited by the Pakistan Pharmacy Council. The Doctor of Pharmacy Program is approved by the Council since its inception.

Faculty Members



Dr. Muhammad Jamshaid

PhD Pharmaceutics (University Of Wales, Cardiff, UK)
M.Phil Pharmacy (University of the Punjab, Lahore)
BSc. in Pharmacy (University of the Punjab, Lahore)
Professor/Dean-Faculty of Pharmacy



Dr. Mahmood Ahmad

PhD Pharmacy (University of the Punjab, Lahore)
MSc Pharmacology (University of Agriculture, Faisalabad)
BSc. in Pharmacy (University of the Punjab, Lahore)
Professor/HOD-Faculty of Pharmacy



Dr. Khalid Idrees Khan

PhD Pharmaceutical Microbiology (University of the Punjab, Lahore)
MSc Microbiology (University of Karachi, Karachi)
Associate Professor



Dr. Mahtab Ahmad Khan

PhD Pharmacology (University of Lübeck, Germany)
M.Phil Pharmacology (Bahauddin Zakariya University, Multan)
BSc. in Pharmacy (Bahauddin Zakariya University, Multan)
Associate Professor



Dr. Ghulam Jillany Khan

PhD Pharmacology (China Pharmaceutical University, Chi-na)
M.Phil Pharmacology & Toxicology, (University of Vet-erinary and Animal Sciences, Lahore)
PGD in Clinical Pharmacology (University of Alberta, Cana-da)
MBA Healthcare Marketing (UVAS, Lahore)
Doctor of Pharmacy (University of the Punjab, Lahore)
Associate Professor



Dr. Faheem Ahmed Siddiqui

PhD Pharmacognosy (University of Karachi, Karachi)
M.Phil Pharmacognosy (University of Karachi, Karachi)
BSc. in Pharmacy (University of Karachi, Karachi)
Assistant Professor



Dr. Khalil Khadim Hussain (On Post-Doc Leave)

PhD (Pusan National University South Korea)
M.Phil Pharmaceutical Sciences (University of Greenwich, UK)
BSc. in Pharmacy (University of the Punjab, Lahore)
Assistant Professor



Dr. Muhammad Zaman

PhD Pharmaceutics (Bahauddin Zakariya University, Multan)
M.Phil Pharmaceutics (Government College University, Faisalabad)
Doctor of Pharmacy (University of Sargodha, Sargodha)
Assistant Professor



Dr. Mian Waqar Mustafa

PhD Clinical Pharmacy & Pharmaceutical Care (Prince of Songkla University, Thailand)
MS Clinical Pharmacy & Pharmaceutical Care (Prince of Songkla University, Thailand)
Doctor of Pharmacy (Islamic University, Bahawalpur)
Assistant Professor



Dr. Umer Farooq

PhD Medicinal Chemistry, (Zhejiang University, China)
M.Phil Pharmaceutical chemistry, (Bahauddin Zakariya University, Multan)
Doctor of Pharmacy, (Bahauddin Zakariya University, Multan)
Assistant Professor

**Dr. Waqar Aman**

PhD Pharmaceutical Chemistry (Hanyang University, South Korea)
MS Pharmaceutical Chemistry (Hanyang University, South Korea)
Doctor of Pharmacy (University of Peshawar, Peshawar)
Assistant Professor

**Mr. Muhammad Shafeeq Ur Rahman**

M.Phil Pharmacology, (University of Sargodha, Sargodha)
MBA Marketing, (Multan Institute of Management Sciences, Multan)
BSc. in Pharmacy, (Bahauddin Zakariya University, Multan)
Assistant Professor

**Mr. Muhammad Imran Sajid (On Study Leave)**

M.Phil Biochemistry, (King Edward Medical University, Lahore)
Doctor of Pharmacy, (University of the Punjab, Lahore)
Assistant Professor

**Ms. Sana Jameel**

MSc Toxicology (University of Surrey, UK)
Doctor of Pharmacy (University of Lahore, Lahore)
Assistant Professor

**Mr. Muhammad Nadeem Alvi**

M.Phil Pharmaceutical Chemistry (University of the Punjab, Lahore)
BSc. in Pharmacy, (University of the Punjab, Lahore)
Assistant Professor

**Mr. Irfan Bashir**

Clinical Research Certified Professional (Dow University of Health Sciences, Karachi)
M.Phil Pharmaceutics (Government College University, Faisalabad)
Doctor of Pharmacy (University of the Punjab, Lahore)
Assistant Professor

**Mr. Imtiaz Majeed**

M.Phil Pharmaceutics (University of the Punjab, Lahore)
MBA Marketing (Pak-American Institute of Management Sciences, Lahore)
BSc. in Pharmacy (University of the Punjab, Lahore)
Assistant Professor

**Ms. Rabia Saleem**

M.Phil Pharmacognosy, (University of the Punjab, Lahore)
BSc. in Pharmacy, (University of the Punjab, Lahore)
Assistant Professor

**Ms. Ayesha Asif**

M.Phil Pharmacognosy (University of the Punjab, Lahore)
Doctor of Pharmacy (University of the Punjab, Lahore)
Assistant Professor

**Ms. Nazia Tabasum (On Study Leave)**

M.Phil Pharmacology (University of Sargodha, Sargodha)
Doctor of Pharmacy (Bahauddin Zakariya University, Multan)
Assistant Professor

**Ms. Tooba Mehboob**

M.Phil Pharmaceutics (University of Central Punjab, Lahore)
Doctor of Pharmacy (University of the Punjab, Lahore)
Lecturer

**Ms. Sarah Ahmad**

M.Phil Pharmaceutics, (University of Central Punjab, Lahore)
Doctor of Pharmacy, (Lahore College for Women University, Lahore)
Lecturer

**Mr. Hassan Ahmad**

DHA Exam, Pharmacist (Dubai Health Authority)
SCHS Exam Pharmacy Specialist, (Saudi Commission for Health Specialties)
M.Phil Pharmaceutics (Islamia University, Bahawalpur)
Doctor of Pharmacy (Islamia University, Bahawalpur)
Lecturer

**Mr. Waqas Akram**

MSc Clinical Pharmacy (Universiti Teknologi MARA, Malaysia)
Doctor of Pharmacy (Islamia University, Bahawalpur)
Lecturer

**Ms. Rabia Ali**

*MS Pharmaceutical Chemistry (Government College University, Lahore)
Doctor of Pharmacy (Lahore College of Pharmaceutical Sciences, Lahore)
Lecturer*

**Ms. Ambreen Ishaque**

*M.Phil Pharmacology (Lahore College for Women University, Lahore)
Doctor of Pharmacy (Hajvery University, Lahore)
Lecturer*

**Ms. Naila Tabassam**

*M.Phil Pharmaceutics (University of Central Punjab, Lahore)
Doctor of Pharmacy (Lahore College for Women, University)
Lecturer*

**Ms. Rabia Aslam**

*M.Phil Pharmaceutics (University of Central Punjab, Lahore)
Doctor of Pharmacy (University of the Punjab, Lahore)
Lecturer*

**Ms. Tehseen Riaz**

*M.Phil Pharmaceutics, (University of Central Punjab, Lahore)
Doctor of Pharmacy, (University of Lahore, Lahore)
Lecturer*

**Ms. Samreen Tanveer**

*M.Phil Pharmaceutical Chemistry (University of the Punjab, Lahore)
MS Pharmaceutical Chemistry (Government College University, Lahore)
Lecturer*

**Ms. Seemab Ali**

*M.Phil Pharmaceutical Chemistry, (University of the Punjab, Lahore)
Doctor of Pharmacy, (University of the Punjab, Lahore)
Lecturer*

**Ms. Mubeen Amjad**

*MPhil Pharmaceutics (In Process) (University of Central Punjab, Lahore)
Doctor of Pharmacy (University of Central Punjab, Lahore)
Lecturer*

**Ms. Qurat Ul Ain**

*MPhil Pharmaceutics (In Process), (University of Central Punjab, Lahore)
Doctor of Pharmacy, (University of Central Punjab, Lahore)
Lecturer*

**Ms. Maimoona Abdul Jabbar**

*MPhil Pharmaceutics (In Process) (University of Central Punjab, Lahore)
Doctor of Pharmacy (University of Central Punjab, Lahore)
Lecturer*

**Ms. Hafsa Ihsan**

*MPhil Pharmaceutics (In Process), (University of Central Punjab, Lahore)
Doctor of Pharmacy, (University of Central Punjab, Lahore)
Lecturer*

Pharmacy Laboratories

Faculty of Pharmacy has been established with very clear objective/view to produce Pharmacists who must be well equipped not only with the theoretical knowledge but also fully trained/skilled through performing Practicals and re-search in the state of arts different laboratories of Faculty of Pharmacy at Doctor of Pharmacy and post graduate degree programs.

Besides, the students are given full opportunity to do internship in various orientations of pharmacy profession like Hospitals and Community pharmacy (Pharmacy Practice), Pharma Industry (Industrial and Pharmaceutical Technology) and training in some special areas such as INMOL, Drug Testing Laboratories and Forensic Laboratory etc.

Brief description of these laboratories are as below;

Pharmaceutics Lab

The main objective of this fundamental lab is to enable students to gain practical knowledge and skills related to the field of Physical Pharmacy, Dosage Form and Dispensing of pharmaceuticals. The lab is fully

equipped to help students to learn the fundamentals and working principles of various instruments. It also covers the various physicochemical processes like precipitation, crystallization, distillation, lyophilization, efflorescence etc. It also encompasses on providing the pharmaceutical knowledge to apply these principles in Pharmacy Profession.

Instrumentation & Quality Control Lab

This lab is designed to undertake basic requirements of two courses i.e., Instrumentation and Pharmaceutical Quality Control Management. It provides the concepts of instrumental analytical methods and their ideal criteria in order to be reliable in light of pharmaceutical products specifications. It, however, focuses on the principles and applications of the different instrumental procedures that are employed in quantitative and qualitative pharmaceutical analysis. The topics include electrochemistry, spectroscopy and chromatography and many others.

The pharmaceutical quality

management laboratory (PQML) serves one of the most important functions in pharmaceutical production and its quality control. PQML has been equipped with very sophisticated instruments like friabilator, hardness tester, dissolution apparatus, disintegration apparatus, spectrophotometer etc. The purpose of this lab is to make the students better understand about Pharmacopoeial specifications regarding formulation evaluation to meet the good pharmacy practices guidelines and official specifications.

Physiology & Anatomy

The general objective of this lab is to provide the students with a knowledge of various systems of human body to treat the diseased conditions. In Human Anatomy and Physiology laboratory-based courses, Pharm-D students investigate the physiology of the human body. Experiments are the model-based explanation of organization of the body and major body systems along with the impact of pathological impacts on certain systems. Students learn through reading, video lessons, case studies, collaborative group work,

interactive notebook projects, and labs. Give training of dissection of a frog and rabbit for their isolated tissue studies. One of the major aspects of Physiology lab is to prepare students with the skills needed for the understanding of basic concepts in Pharmacology and Pathology.

Pharmacology Lab

Pharmacology laboratory is equipped with some of the instruments and devices, that provides students a practical knowledge and hand-on trainings of pharmacological properties of different drugs. Theoretical concepts of pharmacology are illustrated in the lab, using isolated or whole animal preparation. Practicals are designed not only to teach students about experimental animal handling but also to observe the comparative effect of known and unknown drugs. Different practical and simulation techniques are used to give an understanding of the physiological, cellular and molecular mechanisms of pharmacological agents. In this laboratory, students learn the pharmacokinetic principles. They investigate some of the responses of rabbit ileum preparation to several

drugs, ranging from dose-response studies to demonstration of selective antagonism. Also, they learn about sympathetic and para-sympathetic effects of drugs on Rabbits eye to understand autonomic pharmacology.

Pharmacognosy Lab

This course provides students with general knowledge of crude drugs associated with allopathic medicine. Special emphasis is given on study of crude drugs derived from medicinal plants, their morphological organs, origin, history, cultivation, collection, preparation, morphological and histological characters, constituents, adulterants, allied drugs and uses. The Lab is sufficiently equipped with the latest apparatus to conduct experiments related to subject and carry out experimental analysis.

Pharmaceutical Chemistry Lab

Pharmaceutical Chemistry lab provides qualitative and quantitative study of the chemical components of natural and synthetic and semisynthetic materials (sample). The separation of components is often performed prior to

analysis. This lab is well equipped with instruments required for such chemical procedures. The students are instructed to analyze the organic and inorganic compounds as per Pharmacopoeial Standards along with practical experience for synthesizing Active Pharmaceutical Ingredients etc.

In this lab, students gain training by performing various practical in areas of Pharmaceutical Organic Chemistry, Pharmaceutical Biochemistry and Medicinal Chemistry.

Pharmaceutical Microbiology & Pathology Lab

This Lab is established to train students in the discipline of Microbiology. It is equipped with Autoclave, Incubator, Desiccator, Microscopes, Ovens, and Laminar Air Flow etc. The primary objective of this lab is to provide practical exposure to students on staining techniques, sterilization techniques including antibiotic assay, microbial screening, etc. Special training is given to handle and for analysis of sterile products e.g. injectable, ophthalmic preparations implants etc.



Pathology is the study of disease processes and the response of normal tissues to injury. It is a scientific link between basic sciences and clinical medicine. It provides a comprehensive and yet, concise account of the important feature of disease and to link, where possibly, the pathological changes with effects on the patients. It helps the students to understand the causes of diseases in the patients.

Computer Lab

This Lab is established to train students in knowledge of Internet and Email, Web Page Development Complete Statistical package like SPSS, Graph Pad Prism and End Note. The Lab is equipped with core i7 desktops. This practical knowledge helps a lot in management of various aspects of pharmacy profession such as inventory control, prescription screening regarding Drug Interaction of different types and to develop some special programs to best control the dispensing of Pharmaceuticals and Medicines in hospitals and community pharmacies. This training enables pharmacists

to make use of semi automation/ automation facilities in the field.

Clinical Pharmacy Lab

This course deals more with the interaction of pharmacist with the patient in the capacity of team members of the visiting doctors of the wards. More emphasis is given on patient oriented factors in terms of proper selection, correct doses and dose regimen. It also covers the rational use of medicines for the treatment of the most common diseases like cardiovascular, respiratory, joint, and nervous systems etc. The course also deals with how to maximize the benefits and minimize the risks of treatment and the skills of using drugs utilizing evidence-based medicine and pharmaceutical care.

Biopharmaceutics Lab

This course is intended to describe drug pharmacokinetic and Pharmacodynamic concepts, including absorption kinetics, volume of distribution, and compartmental models, absorption processes, single & multiple dosing,

& drug clearance. This course is also planned to cover principles and applications of biopharmaceutics including physicochemical, physiological, & formulation factors affecting drug bioavailability.

Industrial/ Pharmaceutical Technology Lab

Faculty of Pharmacy has a well-developed and state of the art industrial/ Pharmaceutical Technology laboratory to serve the students of 7th, 8th, 9th and 10th semesters. This lab is developed keeping in mind all the requirements of a developed pharmaceutical industry so that students can have an idea of all the sections working in a large scale pharma industry. This lab has more than 2400 square feet covered area having the following 4 separate sections with all the necessary equipment's and instruments necessary for the training of future pharmacist.

Solid Dosage Form Section

This section has more than 25 different

replicas of large scale machines for the preparation of powders, granules, tablets and capsule filling. That includes from weighing balances, powder grinding and grading machines up to fluidized bed dryer and single punch and 15 punch rotary press tableting machines. This section also has all the instruments required for tablet coating/polishing and capsule filling.

Wet/ Dry Syrup Section

This section includes all the necessary pieces of equipment and instruments for the manufacturing of wet and dry syrups. It includes deionized water filtration plant, mixer and homogenizers like silvers on mixer and colloidal mill, filter press and bottle filling and sealing machines.

Semisolid Dosage Form Section

This section is dedicated to the production and packaging of semisolid dosage forms like creams, ointments and gels. It has all the required instruments like steam jacketed ointment mixer, triple roller mill, suppository molds, ointment filling and tube sealing machines

Sterile Injectable Section

This is a state of the art section with the replica of any modern sterile manufacturing area of any developed pharmaceutical industry. This section has separate entry through a changeover room and step over bench and all the necessary equipment/ instruments for injectable manufacturing and filling. That includes mixers, filter membranes, vial and ampoule filling under laminar flow hood & sealing machine, cooking pans and necessary equipment for in-process quality control tests required in injectable manufacturing section like leak test apparatus, vial ampoule checking lamp etc.

The objective of these labs is to provide practical exposure to the budding pharmacists on Pre-Formulation Screening Tests, Designing, Evaluation and Pharmacokinetic study of solid, liquid, semisolid dosage forms including Novel Drug Delivery Systems like ocular, nasal, trans mucosal, soft palatal drug delivery systems etc. which curtail the drug dose and minimizes the drug adverse reactions with excellent patient

compliance.

Research Lab

This lab is well equipped with sophisticated instruments and equipment including double beam UV spectrophotometer, Rotary Evaporator, latest homogenizer assembly to prepare Nano range formulations (Nano pharmaceuticals), Multi-station Franz diffusion cell assembly, Brookfield Viscometer, Dissolution, Disintegration etc. The lab is well equipped with all such facilities to be used in pre-formulation, formulation, stability studies in different areas of Drug Delivery Systems.

Research is focused on market oriented problems. Also, research is focused on special dosage forms like orodispersible dosage forms, Gastro retentive dosage forms and in situ drug delivery.



Doctor of Pharmacy (Pharm.D.)

Admission Requirements

(i) F.Sc. (Pre-Medical) with minimum 60% marks

OR

(ii) A-Levels (Biology, Physics & Chemistry) or equivalent with minimum 60% marks, equivalence from IBCC will be required.

Degree Requirements

Each candidate of Pharm.D. degree is required to complete 198 Cr. Hrs. with the minimum CGPA of 2.5 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Pharmaceutics Courses	56
b)	Pharmaceutical Chemistry Courses	32
c)	Basic Medical Sciences Courses	32
d)	Pharmacognosy Courses	16
e)	Pharmacy Practice Courses	41
f)	Mathematics and Bio-statistics Courses	06
g)	Computer Science Courses	04
h)	Humanities Courses	11
	Total	198



a) Pharmaceutics Courses (56 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmaceutics-IA (Physical Pharmacy)	PHPT1113	3
Pharmaceutics-IB (Physical Pharmacy)	PHPT1123	3
Pharmaceutics-IIA (Dosage Forms Science)	PHPT2133	3
Pharmaceutics-IIB (Dosage Forms Science)	PHPT2143	3
Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology)	PHPT2153	3
Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology)	PHPT2163	3
Pharmaceutics-IVA (Industrial Pharmacy)	PHPT4173	3
Pharmaceutics-IVB (Industrial Pharmacy)	PHPT4183	3
Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics)	PHPT4213	3
Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics)	PHPT4223	3
Pharmaceutics-VIA (Pharmaceutical Quality Management)	PHPT4233	3
Pharmaceutics-VIB (Pharmaceutical Quality Management)	PHPT4243	3
Pharmaceutics-VIIA (Pharmaceutical Technology)	PHPT5253	3
Pharmaceutics-VII (Pharmaceutical Technology)	PHPT5263	3
Pharmaceutics-IA (Physical Pharmacy) Lab	PHPT1111	1
Pharmaceutics-IB (Physical Pharmacy) Lab	PHPT1121	1
Pharmaceutics-IIA (Dosage Forms Science) Lab	PHPT2131	1
Pharmaceutics-IIB (Dosage Forms Science) Lab	PHPT2141	1
Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology) Lab	PHPT2151	1
Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology) Lab	PHPT2161	1
Pharmaceutics-IVA (Industrial Pharmacy) Lab	PHPT4171	1
Pharmaceutics-IVB (Industrial Pharmacy) Lab	PHPT4181	1
Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics) Lab	PHPT4211	1

Course Title	Code	Cr. Hrs.
Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics) Lab	PHPT4221	1
Pharmaceutics-VIA (Pharmaceutical Quality Management) Lab	PHPT4231	1
Pharmaceutics-VIB (Pharmaceutical Quality Management) Lab	PHPT4241	1
Pharmaceutics-VIIA (Pharmaceutical Technology) Lab	PHPT5251	1
Pharmaceutics-VIIB (Pharmaceutical Technology) Lab	PHPT5261	1

b) Pharmaceutical Chemistry Courses (32 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmaceutical Chemistry-IA (Organic)	PHPC1313	3
Pharmaceutical Chemistry-IB (Organic)	PHPC1323	3
Pharmaceutical Chemistry-IIA (Biochemistry)	PHPC1333	3
Pharmaceutical Chemistry-IIB (Biochemistry)	PHPC1343	3
Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis)	PHPC3353	3
Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis)	PHPC3363	3
Pharmaceutical Chemistry-IVA (Medicinal Chemistry)	PHPC5373	3
Pharmaceutical Chemistry-IVB (Medicinal Chemistry)	PHPC5383	3
Pharmaceutical Chemistry-IA (Organic) Lab	PHPC1311	1
Pharmaceutical Chemistry-IB (Organic) Lab	PHPC1321	1
Pharmaceutical Chemistry-IIA (Biochemistry) Lab	PHPC1331	1
Pharmaceutical Chemistry-IIB (Biochemistry) Lab	PHPC1341	1
Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis) Lab	PHPC3351	1
Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis) Lab	PHPC3361	1
Pharmaceutical Chemistry-IVA (Medicinal Chemistry) Lab	PHPC5371	1
Pharmaceutical Chemistry-IVB (Medicinal Chemistry) Lab	PHPC5381	1

c) Medical Sciences Courses (32 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Physiology-A	PHMS1513	3
Physiology-B	PHMS1523	3
Anatomy & Histology	PHMS1533	3
Pharmacology and Therapeutics-IA	PHMS2543	3
Pharmacology and Therapeutics-IB	PHMS2553	3
Pharmacology and Therapeutics-IIA	PHMS3563	3
Pharmacology and Therapeutics-IIB	PHMS3573	3
Pathology	PHMS3583	3
Physiology-A Lab	PHMS1511	1
Physiology-B Lab	PHMS1521	1
Anatomy & Histology Lab	PHMS1531	1
Pharmacology and Therapeutics-IA Lab	PHMS2541	1
Pharmacology and Therapeutics-IB Lab	PHMS2551	1
Pharmacology and Therapeutics-IIA Lab	PHMS3561	1
Pharmacology and Therapeutics-IIB Lab	PHMS3571	1
Pathology Lab	PHMS3581	1

d) Pharmacognosy Courses (16 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmacognosy-IA (Basic)	PHPG2713	3
Pharmacognosy-IB (Basic)	PHPG2723	3
Pharmacognosy-IIA (Advanced)	PHPG3733	3
Pharmacognosy-IIB (Advanced)	PHPG3743	3
Pharmacognosy-IA (Basic) Lab	PHPG2711	1
Pharmacognosy-IB (Basic) Lab	PHPG2721	1
Pharmacognosy-IIA (Advanced) Lab	PHPG3731	1
Pharmacognosy-IIB (Advanced) Lab	PHPG3741	1

e) Pharmacy Practice Courses (41 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmacy Practice-IIA (Dispensing Pharmacy)	PHPP3813	3
Pharmacy Practice-IIB (Community, Social & Administrative Pharmacy)	PHPP3823	3
Pharmacy Practice-IVA (Hospital Pharmacy)	PHPP4833	3
Pharmacy Practice-IVB (Hospital Pharmacy)	PHPP4843	3
Pharmacy Practice-VA (Clinical Pharmacy-I)	PHPP4853	3

Course Title	Code	Cr. Hrs.
Pharmacy Practice-VB (Clinical Pharmacy-I)	PHPP4863	3
Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II)	PHPP5873	3
Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II)	PHPP5883	3
Pharmacy Practice-VIIA (Forensic Pharmacy)	PHPP5913	3
Pharmacy Practice-VIIB (Forensic Pharmacy)	PHPP5923	3
Pharmacy Practice-VIIIA (Pharmaceutical Management & Marketing)	PHPP5933	3
Pharmacy Practice-VIIIB (Pharmaceutical Management & Marketing)	PHPP5943	3
Pharmacy Practice-IIA (Dispensing Pharmacy) Lab	PHPP3811	1
Pharmacy Practice-VA (Clinical Pharmacy-I) Lab	PHPP4851	1
Pharmacy Practice-VB (Clinical Pharmacy-I) Lab	PHPP4861	1
Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II) Lab	PHPP5871	1
Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II) Lab	PHPP5881	1

f) Mathematics and Bio-statistics Courses (06 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmacy Practice-IA (Pharmaceutical Mathematics)	PHMT2013	3
Pharmacy Practice-IB (Bio-Statistics)	PHMT2023	3

g) Computer Science Courses (04 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmacy Practice-III (Computer and its Applications in Pharmacy)	PHCS3013	3
Pharmacy Practice-III (Computer and its Applications in Pharmacy) Lab	PHCS3011	1

h) Humanities Courses (11 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English-A (Functional English)	PHHU1012	2
English-B (Communication & Writing Skills)	PHHU1024	4
Islamic Studies	PHHU2033	3
Pakistan Studies	PHHU2042	2

Community Service (PH3000)

Each student is required to complete 65 hours community work, usually after 8th semester which would be a prerequisite for the award of degree.

Program Duration

This is a five-year degree program comprising of 10 semesters. There is a Fall and a Spring semester in each year. The summer semester is utilized for deficiency courses. The maximum duration to complete the Pharm.D. program is 7 years.



Scheme of Studies Doctor of Pharmacy (Pharm.D.)

Semester I (22 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHHU1012	English-A (Functional English)	Humanities	2
PHPT1113	Pharmaceutics-IA (Physical Pharmacy)	Pharmaceutics	3
PHPT1111	Pharmaceutics-IA (Physical Pharmacy) Lab	Pharmaceutics	1
PHPC1313	Pharmaceutical Chemistry-IA (Organic)	Pharmaceutical Chemistry	3
PHPC1311	Pharmaceutical Chemistry-IA (Organic) Lab	Pharmaceutical Chemistry	1
PHPC1333	Pharmaceutical Chemistry-IIA -(Biochemistry)	Pharmaceutical Chemistry	3
PHPC1331	Pharmaceutical Chemistry-IIA (Biochemistry) Lab	Pharmaceutical Chemistry	1
PHMS1513	Physiology-A	Medical Sciences	3
PHMS1511	Physiology-A Lab	Medical Sciences	1
PHMS1533	Anatomy & Histology	Medical Sciences	3
PHMS1531	Anatomy & Histology Lab	Medical Sciences	1

Semester II (20 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHHU1024	English-B (Communication & Writing skills)	Humanities	4
PHPT1123	Pharmaceutics-IB (Physical Pharmacy)	Pharmaceutics	3
PHPT1121	Pharmaceutics-IB (Physical Pharmacy) Lab	Pharmaceutics	1
PHPC1323	Pharmaceutical Chemistry-IB (Organic)	Pharmaceutical Chemistry	3
PHPC1321	Pharmaceutical Chemistry-IB (Organic) Lab	Pharmaceutical Chemistry	1
PHPC1343	Pharmaceutical Chemistry-IIB (Biochemistry)	Pharmaceutical Chemistry	3
PHPC1341	Pharmaceutical Chemistry-IIB (Biochemistry) Lab	Pharmaceutical Chemistry	1
PHMS1523	Physiology-B	Medical Sciences	3
PHMS1521	Physiology-B Lab	Medical Sciences	1



Scheme of Studies Doctor of Pharmacy (Pharm.D.)

Semester III (22 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHHU2033	Islamic Studies	Humanities	3
PHPT2133	Pharmaceutics-IIA (Dosage Forms Science)	Pharmaceutics	3
PHPT2131	Pharmaceutics-IIA (Dosage Forms Science) Lab	Pharmaceutics	1
PHPT2153	Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology)	Pharmaceutics	3
PHPT2151	Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology) Lab	Pharmaceutics	1
PHMS2543	Pharmacology and Therapeutics-IA	Medical Sciences	3
PHMS2541	Pharmacology and Therapeutics-IA Lab	Medical Sciences	1
PHPG2713	Pharmacognosy-IA (Basic)	Pharmacognosy	3
PHPG2711	Pharmacognosy-IA (Basic) Lab	Pharmacognosy	1
PHMT2013	Pharmacy Practice-IA (Pharmaceutical Mathematics)	Mathematics And Biostatistics	3

Semester IV (21 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHHU2042	Pakistan Studies	Humanities	2
PHPT2143	Pharmaceutics-IIB (Dosage Forms Science)	Pharmaceutics	3
PHPT2141	Pharmaceutics-IIB (Dosage Forms Science) Lab	Pharmaceutics	1
PHPT2163	Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology)	Pharmaceutics	3
PHPT2161	Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology) Lab	Pharmaceutics	1
PHMS2553	Pharmacology and Therapeutics-IB	Medical Sciences	3
PHMS2551	Pharmacology and Therapeutics-IB Lab	Medical Sciences	1
PHPG2723	Pharmacognosy-IB (Basic)	Pharmacognosy	3
PHPG2721	Pharmacognosy-IB (Basic) Lab	Pharmacognosy	1
PHMT2023	Pharmacy Practice-IB (Bio-statistics)	Mathematics And Biostatistics	3

Scheme of Studies Doctor of Pharmacy (Pharm.D.)**Semester V (20 Cr. Hrs.)**

Course Code	Course Title	Category	Cr. Hrs.
PHPP3813	Pharmacy Practice-IIA (Dispensing Pharmacy)	Pharmacy Practice	3
PHPP3811	Pharmacy Practice-IIA (Dispensing Pharmacy) Lab	Pharmacy Practice	1
PHPC3353	Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis)	Pharmaceutical Chemistry	3
PHPC3351	Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis) Lab	Pharmaceutical Chemistry	1
PHMS3563	Pharmacology and Therapeutics-IIA	Medical Sciences	3
PHMS3561	Pharmacology and Therapeutics-IIA Lab	Medical Sciences	1
PHPG3733	Pharmacognosy-IIA (Advanced)	Pharmacognosy	3
PHPG3731	Pharmacognosy-IIA (Advanced) Lab	Pharmacognosy	1
PHMS3583	Pathology	Medical Sciences	3
PHMS3581	Pathology Lab	Medical Sciences	1

Semester VI (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHPP3823	Pharmacy Practice-IIB (Community, Social & Administrative Pharmacy)	Pharmacy Practice	3
PHPC3363	Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis)	Pharmaceutical Chemistry	3
PHPC3361	Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis) Lab	Pharmaceutical Chemistry	1
PHMS3573	Pharmacology and Therapeutics-IIB	Medical Sciences	3
PHMS3571	Pharmacology and Therapeutics-IIB Lab	Medical Sciences	1
PHPG3743	Pharmacognosy-IIB (Advanced)	Pharmacognosy	3
PHPG3741	Pharmacognosy-IIB (Advanced) Lab	Pharmacognosy	1
PHCS3013	Pharmacy Practice-III (Computer and its Applications in Pharmacy)	Computer Science	3
PHCS3011	Pharmacy Practice-III (Computer and its Applications in Pharmacy) Lab	Computer Science	1

Scheme of Studies Doctor of Pharmacy (Pharm.D.)**Semester VII (19 Cr. Hrs.)**

Course Code	Course Title	Category	Cr. Hrs.
PHPP4833	Pharmacy Practice-IVA (Hospital Pharmacy)	Pharmacy Practice	3
PHPP4853	Pharmacy Practice-VA (Clinical Pharmacy-I)	Pharmacy Practice	3
PHPP4851	Pharmacy Practice-VA (Clinical Pharmacy-I) Lab	Pharmacy Practice	1
PHPT4173	Pharmaceutics-IVA (Industrial Pharmacy)	Pharmaceutics	3
PHPT4171	Pharmaceutics-IVA (Industrial Pharmacy) Lab	Pharmaceutics	1
PHPT4213	Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics)	Pharmaceutics	3
PHPT4211	Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics) Lab	Pharmaceutics	1
PHPT4233	Pharmaceutics-VIA (Pharmaceutical Quality Management)	Pharmaceutics	3
PHPT4231	Pharmaceutics-VIA (Pharmaceutical Quality Management) Lab	Pharmaceutics	1

Semester VIII (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHPP4843	Pharmacy Practice-IVB (Hospital Pharmacy)	Pharmacy Practice	3
PHPP4863	Pharmacy Practice-VB (Clinical Pharmacy-I)	Pharmacy Practice	3
PHPP4861	Pharmacy Practice-VB (Clinical Pharmacy-I) Lab	Pharmacy Practice	1
PHPT4183	Pharmaceutics-IVB (Industrial Pharmacy)	Pharmaceutics	3
PHPT4181	Pharmaceutics-IVB (Industrial Pharmacy) Lab	Pharmaceutics	1
PHPT4223	Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics)	Pharmaceutics	3
PHPT4221	Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics) Lab	Pharmaceutics	1
PHPT4243	Pharmaceutics-VIB (Pharmaceutical Quality Management)	Pharmaceutics	3
PHPT4241	Pharmaceutics-VIB (Pharmaceutical Quality Management) Lab	Pharmaceutics	1

Scheme of Studies Doctor of Pharmacy (Pharm.D.)

Semester IX (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHPT5253	Pharmaceutics-VIIA (Pharmaceutical Technology)	Pharmaceutics	3
PHPT5251	Pharmaceutics-VIIA (Pharmaceutical Technology) Lab	Pharmaceutics	1
PHPP5873	Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II)	Pharmacy Practice	3
PHPP5871	Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II) Lab	Pharmacy Practice	1
PHPP5913	Pharmacy Practice-VIIA (Forensic Pharmacy)	Pharmacy Practice	3
PHPP5933	Pharmacy Practice-VIIIA (Pharmaceutical Management & Marketing)	Pharmacy Practice	3
PHPC5373	Pharmaceutical Chemistry-IVA (Medicinal Chemistry)	Pharmaceutical Chemistry	3
PHPC5371	Pharmaceutical Chemistry-IVA (Medicinal Chemistry) Lab	Pharmaceutical Chemistry	1

Semester X (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHPT5263	Pharmaceutics-VIIB (Pharmaceutical Technology)	Pharmaceutics	3
PHPT5261	Pharmaceutics-VIIB (Pharmaceutical Technology) Lab	Pharmaceutics	1
PHPP5883	Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II)	Pharmacy Practice	3
PHPP5881	Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II) Lab	Pharmacy Practice	1
PHPP5923	Pharmacy Practice-VIIB (Forensic Pharmacy)	Pharmacy Practice	3
PHPP5943	Pharmacy Practice-VIIIB (Pharmaceutical Management & Marketing)	Pharmacy Practice	3
PHPC5383	Pharmaceutical Chemistry-IVB (Medicinal Chemistry)	Pharmaceutical Chemistry	3
PHPC5381	Pharmaceutical Chemistry-IVB (Medicinal Chemistry) Lab	Pharmaceutical Chemistry	1

M.Phil. Pharmacy (Pharmaceutics)

Admission Requirements

- (i) Pharm.D or B.Pharm. from HEC & PCP recognized institutions minimum 2.00/4.00 CGPA in semester system or 50% marks in annual system.
- (ii) UCP Admission / HEC Approved Test.

Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate of M.Phil. degree is required to complete 30 Cr. Hrs. as per the following detail:

Area	Cr. Hrs.
a) Core Courses	06
b) Specialization Courses	18
c) Research Thesis/Project/Additional Courses	06

a) Core Courses

Course	Code	Cr. Hrs.
Biostatistics	PHPT6013	3
Research Methodology, Seminar & Project Writing	PHPT6023	3

b) Specialization Courses

Course	Code	Cr. Hrs.
Advanced Pharmaceutics-I	PHPT6113	3
Applied Biopharmaceutics & Pharmacokinetics	PHPT6123	3
Pharmaceutical Microbiology	PHPT6133	3
Pharmaceutical Technology	PHPT6143	3
Clinical Pharmacy	PHPT6153	3
Advanced Pharmaceutics-II	PHPT6163	3

c) Research Thesis

Course	Code	Cr. Hrs.
Research Thesis	PHPT7126	6
Thesis Continuation	PHPT7121	1

Program Duration

This is nominally a two-year degree program comprising of 04 semesters. There is a Fall and a Spring semester in each year. The maximum duration to complete the program is 4 years.