

DEPARTMENT OF PHARMACY

HOD'S MESSAGE



Dr. Muzaffar Abbas

The Department of Pharmacy promotes excellence in pharmaceutical sciences by encouraging active learning in a conducive environment. To meet the challenges to healthcare and the pharmacy profession, the Department follows curriculum that not only provides a solid foundation of the discipline, it also equips our graduates with required skills and knowledge to practice as a quality health care professional to serve the community, hospitals and industry. Furthermore, to enhance the understanding and to have a hands-on experience, most of the courses are supported by practical training in well-equipped laboratories and clinical settings. Regular visits to the industry, hospital and guest lectures by experts from various pharmaceutical sectors are integral part of the training. Apart from pharmacy related courses, a number of general courses in the area of humanities, computer science and communication are compulsory in order to provide the students with a

social and psychological perspectives of the training, thereby ensuring a balanced personality. All the faculty members are well qualified, competent and experienced to provide quality education.

After successful completion of pharmacy curriculum, students are awarded Doctor of pharmacy (Pharm.D.) degree. The graduates can serve hospitals, industry, drug regulatory authorities, academia and fulfill the increasing demand of pharmacists at national and international level. Moreover, the graduates can continue their studies up to Master/PhD level and can contribute in the on-going pharmaceutical sciences research worldwide.

If you are looking for a rewarding educational experience in pharmaceutical sciences, you are at the right place. Explore, experience and excel with us!

Doctor of Pharmacy

■ Program Educational Objectives (PEOs)

The Pharm.D. program aims to produce leading professionals who will:

- (i) Contribute competently in the pharmaceutical profession by applying requisite knowledge and skills.
- (ii) Exhibit quest for learning and initiative through elevation in education or growth in professional status.
- (iii) Demonstrate ethical values and contribute positively towards the society.

■ Program Learning Outcomes (PLOs)

Upon completion of Pharm.D. program, the graduating students should be able to demonstrate the following attributes:

- (i) **Foundational Knowledge:** An ability to develop, integrate and apply knowledge from the foundational sciences (basic medical and pharmaceutical sciences) to execute various services in pharmacy profession.
- (ii) **Problem Analysis and Decision Making:** An ability to identify and systematically analyze problems, synthesize and interpret information, explore and prioritize potential strategies and make logical and appropriate decision to reach a viable solution.
- (iii) **Medication Use System Management:** An ability to manage healthcare system using human, financial, technological and physical resources, appropriate techniques and tools to optimize safety and efficacy of medications.

- (iv) **Pharmaceutical Care:** An ability to deliver customized pharmaceutical care to the patients by identifying patient needs, cultural sensitivity, socio-economic conditions and understand how population-based care influences patient-centered care to develop evidence-based guidelines and provide best pharmaceutical care for individuals and communities.
- (v) **Dispensing and Compounding Practices:** An ability to implement the process of compounding and dispensing medications in compliance with established standards to meet specific patient needs.
- (vi) **Drug Design and Development:** An ability to demonstrate appropriate professional skills and techniques involved in drug manufacture, design, development and screening, quality control and quality assurance of pharmaceutical products.
- (vii) **Professionalism and Ethics:** An ability to practice pharmacy in legal, ethical and professional ways and exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers and society.
- (viii) **Individual and Team Work:** An ability to work effectively as an individual or as a member or leader of a team, in multidisciplinary settings.
- (ix) **Communication:** An ability to effectively communicate verbally and nonverbally and use appropriate technologies when interacting with individuals, groups and organizations.
- (x) **Research, Innovation and Entrepreneurship:** An ability to engage in research, innovation and entrepreneurship in pharmacy profession by using creative thinking to envision better ways of accomplishing professional goals.

- (xi) **Life–Long Learning:** An ability to demonstrate independent study skills to pursue lifelong learning by engaging in experiences and activities that challenge them to continuously update their knowledge and develop new abilities for their personal and professional growth.

A-Level Students are required to submit IBCC equivalent certificate.

- (ii) CUST Admission Test/HEC Approved Test

■ Degree Requirements

Each candidate for the Pharm.D. degree is required to successfully earn 198 Cr. Hrs. as per the following details:

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

■ Pharmaceutics Courses (56 Cr. Hrs)

Course Title	Code	Cr. Hrs.
Pharmaceutics-IA (Physical Pharmacy)	PH1113	03
Pharmaceutics-IB (Physical Pharmacy)	PH1123	03
Pharmaceutics-IIA (Dosage Forms Science)	PH2133	03
Pharmaceutics-IIB (Dosage Forms Science)	PH2143	03
Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology)	PH2153	03
Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology)	PH2163	03
Pharmaceutics-IVA (Industrial Pharmacy)	PH4173	03
Pharmaceutics-IVB (Industrial Pharmacy)	PH4183	03

Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics)	PH4213	03
Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics)	PH4223	03
Pharmaceutics-VIA (Pharmaceutical Quality Management)	PH4233	03
Pharmaceutics-VIB (Pharmaceutical Quality Management)	PH4243	03
Pharmaceutics-VIIA (Pharmaceutical Technology)	PH5253	03
Pharmaceutics-VIIB (Pharmaceutical Technology)	PH5263	03
Pharmaceutics-IA (Physical Pharmacy) Lab	PH1111	01
Pharmaceutics-IB (Physical Pharmacy) Lab	PH1121	01
Pharmaceutics-IIA (Dosage Forms Science) Lab	PH2131	01
Pharmaceutics-IIB (Dosage Forms Science) Lab	PH2141	01
Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology) Lab	PH2151	01
Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology) Lab	PH2161	01
Pharmaceutics-IVA (Industrial Pharmacy) Lab	PH4171	01
Pharmaceutics-IVB (Industrial Pharmacy) Lab	PH4181	01
Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics) Lab	PH4211	01
Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics) Lab	PH4221	01
Pharmaceutics-VIA (Pharmaceutical Quality Management) Lab	PH4231	01
Pharmaceutics-VIB (Pharmaceutical Quality Management) Lab	PH4241	01
Pharmaceutics-VIIA (Pharmaceutical Technology) Lab	PH5251	01
Pharmaceutics-VIIB (Pharmaceutical Technology) Lab	PH5261	01

■ Pharmaceutical Chemistry Courses (32 Cr. Hrs)

Course Title	Code	Cr. Hrs.
Pharmaceutical Chemistry-IA (Organic)	PH1313	03
Pharmaceutical Chemistry-IB (Organic)	PH1323	03
Pharmaceutical Chemistry-IIA (Biochemistry)	PH1333	03
Pharmaceutical Chemistry-IIB (Biochemistry)	PH1343	03
Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis)	PH3353	03
Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis)	PH3363	03

Pharmaceutical Chemistry-IVA (Medicinal Chemistry)	PH5373	03
Pharmaceutical Chemistry-IVB (Medicinal Chemistry)	PH5383	03
Pharmaceutical Chemistry-IA (Organic) Lab	PH1311	01
Pharmaceutical Chemistry-IB (Organic) Lab	PH1321	01
Pharmaceutical Chemistry-IIA (Biochemistry) Lab	PH1331	01
Pharmaceutical Chemistry-IIB (Biochemistry) Lab	PH1341	01
Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis) Lab	PH3351	01
Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis) Lab	PH3361	01
Pharmaceutical Chemistry-IVA (Medicinal Chemistry) Lab	PH5371	01
Pharmaceutical Chemistry-IVB (Medicinal Chemistry) Lab	PH5381	01

■ Basic Medical Sciences Courses (32 Cr. Hrs)

Course Title	Code	Cr. Hrs.
Physiology-A	PH1513	03
Physiology-B	PH1523	03
Anatomy & Histology	PH1533	03
Pharmacology and Therapeutics-IA	PH2543	03
Pharmacology and Therapeutics-IB	PH2553	03
Pharmacology and Therapeutics-IIA	PH3563	03
Pharmacology and Therapeutics-IIB	PH3573	03
Pathology	PH3583	03
Physiology-A Lab	PH1511	01
Physiology-B Lab	PH1521	01
Anatomy & Histology Lab	PH1531	01
Pharmacology and Therapeutics-IA Lab	PH2541	01
Pharmacology and Therapeutics-IB Lab	PH2551	01
Pharmacology and Therapeutics-IIA Lab	PH3561	01
Pharmacology and Therapeutics-IIB Lab	PH3571	01
Pathology Lab	PH3581	01

■ Pharmacognosy Courses (16 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmacognosy-IA (Basic)	PH2713	03
Pharmacognosy-IB (Basic)	PH2723	03
Pharmacognosy-IIA (Advanced)	PH3733	03
Pharmacognosy-IIB (Advanced)	PH3743	03
Pharmacognosy-IA (Basic) Lab	PH2711	01
Pharmacognosy-IB (Basic) Lab	PH2721	01
Pharmacognosy-IIA (Advanced) Lab	PH3731	01
Pharmacognosy-IIB (Advanced) Lab	PH3741	01

■ Pharmacy Practice Courses (41 Cr. Hrs)

Course Title	Code	Cr. Hrs.
Pharmacy Practice-IIA (Dispensing Pharmacy)	PH3813	03
Pharmacy Practice-IIB (Community, Social & Administrative Pharmacy)	PH3823	03
Pharmacy Practice-IVA (Hospital Pharmacy)	PH4833	03
Pharmacy Practice-IVB (Hospital Pharmacy)	PH4843	03
Pharmacy Practice-VA (Clinical Pharmacy-I)	PH4853	03
Pharmacy Practice-VB (Clinical Pharmacy-I)	PH4863	03
Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II)	PH5873	03
Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II)	PH5883	03
Pharmacy Practice-VIIA (Forensic Pharmacy)	PH5913	03
Pharmacy Practice-VIIB (Forensic Pharmacy)	PH5923	03
Pharmacy Practice-VIIIA (Pharmaceutical Management & Marketing)	PH5933	03
Pharmacy Practice-VIIIB (Pharmaceutical Management & Marketing)	PH5943	03
Pharmacy Practice-IIA (Dispensing Pharmacy) Lab	PH3811	01
Pharmacy Practice-VA (Clinical Pharmacy-I) Lab	PH4851	01
Pharmacy Practice-VB (Clinical Pharmacy-I) Lab	PH4861	01
Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II) Lab	PH5871	01
Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II) Lab	PH5881	01

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

Course Title	Code	Cr. Hrs.
Pharmacy Practice-IA (Pharmaceutical Mathematics)	MTPH2013	03
Pharmacy Practice-IB (Bio-Statistics)	MTPH2023	03

■ Computer Science Courses (04 Cr. Hrs)

Course Title	Code	Cr. Hrs.
Pharmacy Practice-III (Computer and its Applications in Pharmacy)	CSPH3113	03
Pharmacy Practice-III (Computer and its Applications in Pharmacy) Lab	CSPH3111	01

■ Humanities Courses (11 Cr. Hrs)

Course Title	Code	Cr. Hrs.
English-A (Functional English)	HMPH1012	02
English-B (Communication & Writing Skills)	HMPH1024	04
Islamic Studies	HMPH2033	03
Pakistan Studies	HMPH2042	02

■ Pharmacognosy Study Tour

A pharmacognosy study tour is an integral part of the syllabus and is usually arranged after 2nd semester for the collection of medicinal plants from the country. It is mandatory for the students to prepare and submit a report about the medicinal plants. The report is formally evaluated in the final examination.

■ Pharmaceutical Industry Visit

A visit to the pharmaceutical industry following 6th semester is an integral part of the syllabus. Students are required to prepare and submit a report about operations in Pharmaceutical industry. The report is formally evaluated in the final examination.

■ Clerkship in the Clinical Setting

Clerkships are mandatory for clinical training of students during 7th, 8th, 9th and 10th semester in a well reputed hospital. Students are required to prepare and submit a report during 7th and 8th semester and a project during 9th and 10th semester. The report and project are formally evaluated in the final examination.

■ Community Service (VIS4000)

It is mandatory for every student to complete 65 hours of community service during summer usually after 4th semester which is prerequisite for the award of degree.

■ CGPA Requirement

A student is required to earn a minimum 2.00/4.00 CGPA on the completion of his/her degree requirements.

■ Program Duration

This is a five-year degree program comprising of 10 semesters with minimum of 198 Cr. Hrs. There will be a Fall and a Spring semester in each year. The summer session will be utilized for internships or deficiency courses. The maximum duration to complete Pharm.D. degree is 08 years.





SCHEME OF STUDIES

Pharm.D. Program

□ Semester-I (22 Cr. Hrs.)

Course Code	Course Title	Category		Cr. Hrs.
HMPH1012	English – A (Functional English)	Humanities		2
PH1113	Pharmaceutics-IA (Physical Pharmacy)	Pharmaceutics		3
PH1111	Pharmaceutics-IA (Physical Pharmacy) Lab	Pharmaceutics		1
PH1313	Pharmaceutical Chemistry-IA (Organic)	Pharmaceutical Chemistry		3
PH1311	Pharmaceutical Chemistry-IA (Organic) Lab	Pharmaceutical Chemistry		1
PH1333	Pharmaceutical Chemistry-IIA (Biochemistry)	Pharmaceutical Chemistry		3
PH1331	Pharmaceutics Chemistry-IIA (Biochemistry) Lab	Pharmaceutical Chemistry		1
PH1513	Physiology-A	Basic Sciences	Medical	3
PH1511	Physiology-A Lab	Basic Sciences	Medical	1
PH1533	Anatomy & Histology	Basic Sciences	Medical	3
PH1531	Anatomy & Histology Lab	Basic Sciences	Medical	1

□ Semester-II (20 Cr. Hrs)

Course Code	Course Title	Category		Cr. Hrs.
HMPH1024	English-B (Communication & Writing skills)	Humanities		4
PH1123	Pharmaceutics-IB (Physical Pharmacy)	Pharmaceutics		3
PH1121	Pharmaceutics-IB (Physical Pharmacy) Lab	Pharmaceutics		1
PH1323	Pharmaceutical Chemistry-IB (Organic)	Pharmaceutical Chemistry		3

PH1321	Pharmaceutical Chemistry-IB (Organic) Lab	Pharmaceutical Chemistry	1
PH1343	Pharmaceutics Chemistry-IIB (Biochemistry)	Pharmaceutical Chemistry	3
PH1341	Pharmaceutical Chemistry-IIB (Biochemistry) Lab	Pharmaceutical Chemistry	1
PH1523	Physiology-B	Basic Sciences	Medical 3
PH1521	Physiology-B Lab	Basic Sciences	Medical 1

□ Semester-III (22 Cr. Hrs)

Course Code	Course Title	Category	Cr. Hrs.
HMPH2033	Islamic Studies	Humanities	3
PH2133	Pharmaceutics-IIA (Dosage Forms Science)	Pharmaceutics	3
PH2131	Pharmaceutics-IIA (Dosage Forms Science) Lab	Pharmaceutics	1
PH2153	Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology)	Pharmaceutics	3
PH2151	Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology) Lab	Pharmaceutics	1
PH2543	Pharmacology and Therapeutics-IA	Basic Sciences	Medical 3
PH2541	Pharmacology and Therapeutics-IA Lab	Basic Sciences	Medical 1
PH2713	Pharmacognosy-IA (Basic)	Pharmacognosy	3
PH2711	Pharmacognosy-IA (Basic) Lab	Pharmacognosy	1
MTPH2013	Pharmacy Practice-IA (Pharmaceutical Mathematics)	Mathematics and Bio-statistics	3

□ Semester-IV (21 Cr. Hrs)

Course Code	Course Title	Category	Cr. Hrs.
HMPH2042	Pakistan Studies	Humanities	2
PH2143	Pharmaceutics-IIB (Dosage Forms Science)	Pharmaceutics	3

PH2141	Pharmaceutics-IIB (Dosage Forms Science) Lab			Pharmaceutics	1	
PH2163	Pharmaceutics-IIIB (Pharmaceutical Immunology)	Microbiology	&	Pharmaceutics	3	
PH2161	Pharmaceutics-IIIB (Pharmaceutical Immunology) Lab	Microbiology	&	Pharmaceutics	1	
PH2553	Pharmacology and Therapeutics-IB			Basic Sciences	Medical Sciences	3
PH2551	Pharmacology and Therapeutics-IB Lab			Basic Sciences	Medical Sciences	1
PH2723	Pharmacognosy-IB (Basic)			Pharmacognosy		3
PH2721	Pharmacognosy-IB (Basic) Lab			Pharmacognosy		1
MTPH2023	Pharmacy Practice-IB (Bio-statistics)			Mathematics and Bio-statistics		3

□ Semester-V (20 Cr. Hrs)

Course Code	Course Title	Category		Cr. Hrs.
PH3813	Pharmacy Practice-IIA (Dispensing Pharmacy)	Pharmacy Practice		3
PH3811	Pharmacy Practice-IIA (Dispensing Pharmacy) Lab	Pharmacy Practice		1
PH3353	Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis)	Pharmaceutical Chemistry		3
PH3351	Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis) Lab	Pharmaceutical Chemistry		1
PH3563	Pharmacology and Therapeutics-IIA	Basic Sciences	Medical	3
PH3561	Pharmacology and Therapeutics-IIA Lab	Basic Sciences	Medical	1
PH3733	Pharmacognosy-IIA (Advanced)	Pharmacognosy		3
PH3731	Pharmacognosy-IIA (Advanced) Lab	Pharmacognosy		1
PH3583	Pathology	Basic Sciences	Medical	3
PH3581	Pathology Lab	Basic Sciences	Medical	1

□ Semester-VI (19 Cr. Hrs)

Course Code	Course Title	Category		Cr. Hrs.
PH3823	Pharmacy Practice-IIB (Community, Social & Administrative Pharmacy)	Pharmacy Practice		3
PH3363	Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis)	Pharmaceutical Chemistry		3
PH3361	Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis) Lab	Pharmaceutical Chemistry		1
PH3573	Pharmacology and Therapeutics-IIB	Basic Sciences	Medical	3
PH3571	Pharmacology and Therapeutics-IIB Lab	Basic Sciences	Medical	1
PH3743	Pharmacognosy-IIB (Advanced)	Pharmacognosy		3
PH3741	Pharmacognosy-IIB (Advanced) Lab	Pharmacognosy		1
CSPH3113	Pharmacy Practice-III (Computer and its Applications in Pharmacy)	Computer Courses	Science	3
CSPH3111	Pharmacy Practice-III (Computer and its Applications in Pharmacy) Lab	Computer Courses	Science	1

□ **Semester-VII (19 Cr. Hrs)**

Course Code	Course Title	Category		Cr. Hrs.
PH4833	Pharmacy Practice-IVA (Hospital Pharmacy)	Pharmacy Practice		3
PH4853	Pharmacy Practice-VA (Clinical Pharmacy-I)	Pharmacy Practice		3
PH4851	Pharmacy Practice-VA (Clinical Pharmacy-I) Lab	Pharmacy Practice		1
PH4173	Pharmaceutics-IVA (Industrial Pharmacy)	Pharmaceutics		3
PH4171	Pharmaceutics-IVA (Industrial Pharmacy) Lab	Pharmaceutics		1
PH4213	Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics)	Pharmaceutics		3
PH4211	Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics) Lab	Pharmaceutics		1
PH4233	Pharmaceutics-VIA (Pharmaceutical Quality Management)	Pharmaceutics		3
PH4231	Pharmaceutics-VIA (Pharmaceutical Quality Management) Lab	Pharmaceutics		1

☐ **Semester-VIII (19 Cr. Hrs)**

Course Code	Course Title	Category	Cr. Hrs.
PH4843	Pharmacy Practice-IVB (Hospital Pharmacy)	Pharmacy Practice	3
PH4863	Pharmacy Practice-VB (Clinical Pharmacy-I)	Pharmacy Practice	3
PH4861	Pharmacy Practice-VB (Clinical Pharmacy-I) Lab	Pharmacy Practice	1
PH4183	Pharmaceutics-IVB (Industrial Pharmacy)	Pharmaceutics	3
PH4181	Pharmaceutics-IVB (Industrial Pharmacy) Lab	Pharmaceutics	1
PH4223	Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics)	Pharmaceutics	3
PH4221	Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics) Lab	Pharmaceutics	1
PH4243	Pharmaceutics-VIB (Pharmaceutical Quality Management)	Pharmaceutics	3
PH4241	Pharmaceutics-VIB (Pharmaceutical Quality Management) Lab	Pharmaceutics	1

☐ **Semester-IX (19 Cr. Hrs)**

Course Code	Course Title	Category	Cr. Hrs.
PH5253	Pharmaceutics-VIIA (Pharmaceutical Technology)	Pharmaceutics	3
PH5251	Pharmaceutics-VIIA (Pharmaceutical Technology) Lab	Pharmaceutics	1
PH5873	Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II)	Pharmacy Practice	3
PH5871	Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II) Lab	Pharmacy Practice	1
PH5913	Pharmacy Practice-VIIA (Forensic Pharmacy)	Pharmacy Practice	3
PH5933	Pharmacy Practice-VIIIA (Pharmaceutical Management & Marketing)	Pharmacy Practice	3
PH5373	Pharmaceutical Chemistry-IVA (Medicinal Chemistry)	Pharmaceutical Chemistry	3
PH5371	Pharmaceutical Chemistry-IVA (Medicinal Chemistry) Lab	Pharmaceutical Chemistry	1

☐ **Semester-X (19 Cr. Hrs)**

Course Code	Course Title	Category	Cr. Hrs.
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PH5263	Pharmaceutics-VIIB (Pharmaceutical Technology)	Pharmaceutics	3
PH5261	Pharmaceutics-VIIB (Pharmaceutical Technology) Lab	Pharmaceutics	1
PH5883	Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II)	Pharmacy Practice	3
PH5881	Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II) Lab	Pharmacy Practice	1
PH5923	Pharmacy Practice-VIIB (Forensic Pharmacy)	Pharmacy Practice	3
PH5943	Pharmacy Practice-VIIIB (Pharmaceutical Management & Marketing)	Pharmacy Practice	3
PH5383	Pharmaceutical Chemistry-IVB (Medicinal Chemistry)	Pharmaceutical Chemistry	3
PH5381	Pharmaceutical Chemistry-IVB (Medicinal Chemistry) Lab	Pharmaceutical Chemistry	1





