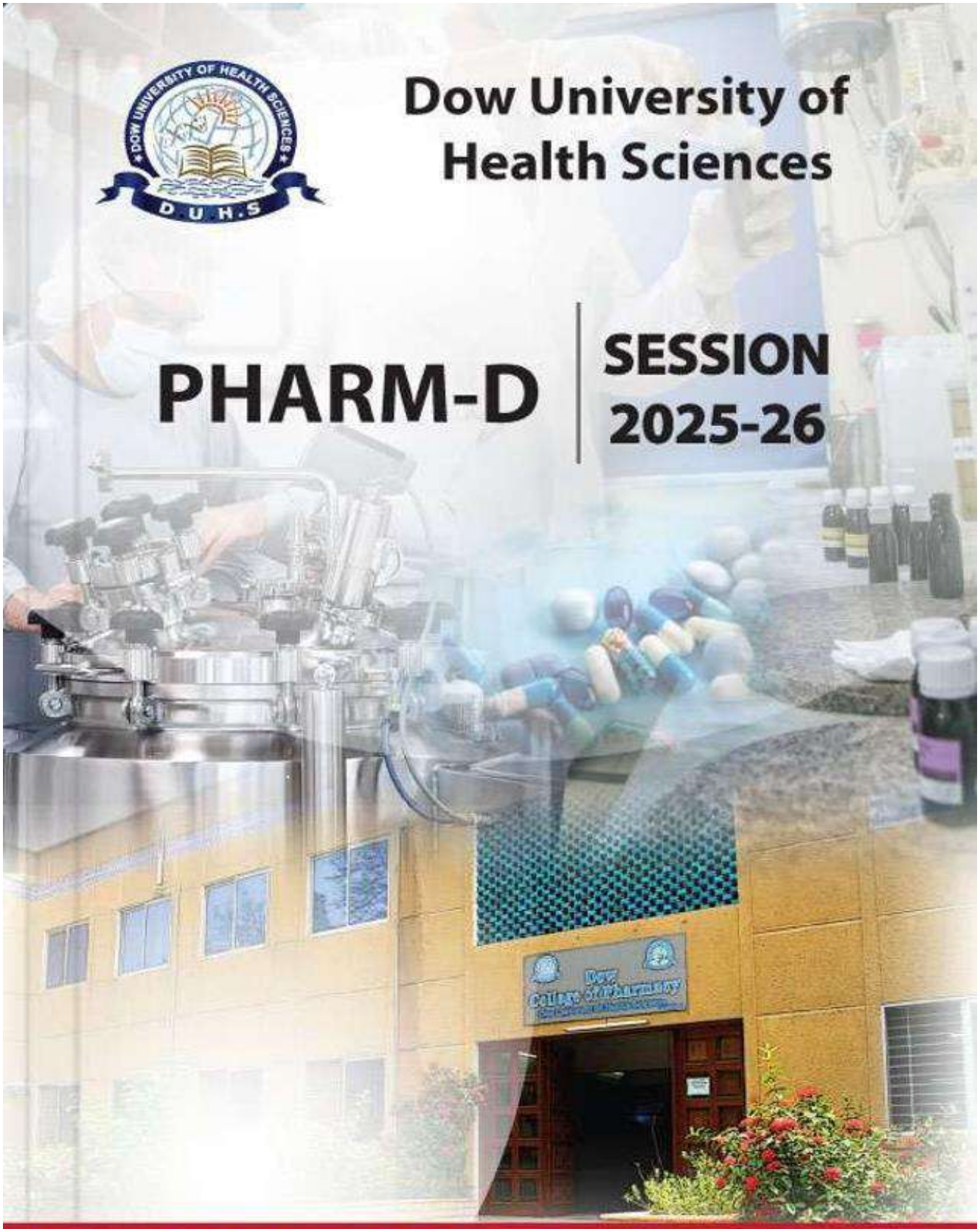
Dow University of Health Sciences

PHARM-D | SESSION 2025-26



HAND BOOK

DOW COLLEGE OF PHARMACY (DCOP)



MESSAGE BY THE VICE CHANCELLOR

PROF. DR. NAZLI HOSSAIN
Vice Chancellor
Dow University of Health Sciences

It is a great honor for me, as the Vice Chancellor of Dow University of Health Sciences (DUHS), to welcome you to one of Pakistan's most distinguished institutions of medical and health sciences education.

Since its establishment in 2004, DUHS has evolved from three constituent colleges into a dynamic and comprehensive university system encompassing over fifty constituent and affiliated institutions. Rooted in the proud legacy of Dow Medical College, founded in 1945, DUHS continues to uphold a tradition of excellence, service, and innovation in healthcare education.

Our allied health programs including Pharmacy, Medical Technology, Nursing, Physical Therapy, Biotechnology, Nutrition, Public Health, Radiology Technology, Psychology, and many more, play a vital role in shaping the future of healthcare. These programs are central to our mission of producing competent, compassionate, and skilled professionals who contribute to the well-being of communities locally and globally.

As we move forward, DUHS is committed to further strengthening its academic and research ecosystem through modern technologies, state-of-the-art healthcare facilities, and a culture of innovation. With the support of our dedicated faculty and the enthusiasm of our students, we are poised to advance toward new milestones in education, research, and patient care.

To our incoming students, I extend my heartfelt congratulations on joining this vibrant academic community. Your journey at DUHS will equip you with the knowledge, skills, and values needed to make meaningful contributions to healthcare in Pakistan and beyond.

I welcome you to DUHS, a university where tradition meets innovation and where every student is empowered to make a difference.

Good luck to each of you as you embark on this fulfilling path!

Message of the
DEAN & PRINCIPAL



PROF. DR. SUMBUL SHAMIM
DEAN
FACULTY OF PHARMACY &
PRINCIPAL
DOW COLLEGE OF PHARMACY
DUHS, Karachi.

I am delighted to welcome you to the Dow College of Pharmacy, an esteemed institution providing excellent pharmacy education in Pakistan. Dow College of Pharmacy is recognized for our inclusive ethos and commitment to the highest standards in education, which have made this institute into Pakistan's premier organization offering pharmacy education. We endeavor to set very high values of academic standards. Students aspire to attend our college in intent to accomplish their best. Together, we create a culture of accomplishments and achievements. Our outcomes are remarkable, leading to a prominent place for our alumni in the market and to the field of pharmaceutical sciences.

The Faculty of pharmaceutical Sciences, at Dow College of Pharmacy, Dow University of Health Sciences, was established in the year 2007 to provide quality pharmacy education combined with training at Hospitals and Pharmaceutical Industries of Karachi.

By providing excellent pharmaceutical education in a stimulating academic environment and thorough research, we enable our students to discover, evaluate and implement new vistas of knowledge to improve models of practice and methods of treatment in pharmacy.

We also strive to provide the concept of pharmaceutical ethics so as to mold the conduct and character of the future health care professionals. I am confident that with the team of committed faculty members and supporting staff, we will deliver the time tested human resources for the industry, health care system and society. My prayers are for the success of every student studying Pharmaceutical Sciences at the Dow College of Pharmacy, Dow University of Health Sciences, Karachi.

Thank You

DUHS VISION

To be a pre-eminent academic institution committed to changing and saving lives.

DUHS MISSION

Providing outstanding patient centered education, training and clinical care informed by cutting edge research and innovation generating and disseminating new knowledge.

STATEMENT OF PURPOSE (PHARM.D PROGRAM)

To provide comprehensive, progressive learning environment that encourages quality education, skill building, high ethical and moral standard in the future pharmacist who can contribute in innovative research, provide quality pharmaceutical care, consultancies and be at the forefront in providing novel pharmaceutical products.

HISTORY

Dow College of Pharmacy was established in 2007. Dow College of Pharmacy was also given the name as the Faculty of Pharmacy; Dow College of Pharmacy in the year 2014 as per the University Act.

Faculty of Pharmacy, Dow College of Pharmacy is a distinguished and well renowned entity working under the portal of Dow University of Health Sciences and recognized by Pharmacy Council of Pakistan and Higher Education Commission.

Under the Leadership of Dean and Principal, Prof. Dr. Sumbul Shamim, the Dow College of Pharmacy provides highly proficient education to its students by utilizing rich resources provided by the university. Institute is equipped with high-end facilities for its students, researchers and faculty. The faculty includes 46 highly qualified faculty members, out of which 33 hold a PhD degree in their relevant field and are also HEC approved research supervisors. College of Pharmacy is currently offering a Pharm D, MPhil and PhD Programs.

Till 2025, Thirteen (13) batches of Pharm D-Morning and Six (06) batches of Pharm.D-Evening Program have graduated from this institute. The entire group of passed out Pharmacy graduates from DCOP are giving their professional services in various national and multinational organizations within Pakistan and globally.

OVERVIEW OF DOW COLLEGE OF PHARMACY

INTRODUCTION:

Dow College of Pharmacy, Faculty of Pharmaceutical Sciences, is a distinguished and well-renowned entity working under the portal of Dow University of Health Sciences and recognized by the Pharmacy Council of Pakistan and Higher Education Commission.

The aim is to train pharmacy students, who are the backbone of the healthcare system for practicing in various healthcare settings, including hospitals, communities, clinics, etc. we are actually transforming healthcare into a global hub of innovation and opportunity.

The College Campus has state of Art Buildings, well-furnished spacious classes with Audio-visual facility for teaching and learning. The Undergraduate and Postgraduate Research Labs also take the interest and attention of students

Building Structures at DCOP

Building A



Building B



Building C



The **program** provides a rigorous background in a range of scientific disciplines that are critical to the success of modern pharmaceutical scientists in industry, government, and academia. Pharm.D is a five-year based program. The training also includes hands-on experience in hospitals and pharmaceutical settings. The First Batch of 123 students (morning) passed out in 2013 and presently, 754 students of our five batches are studying in the Pharm. D program. After the successful running of the Morning shift, the evening program was launched in 2015. Under the Leadership of the Dean & Principal, Prof. Dr. Sumbul Shamim, Dow College of Pharmacy provides highly proficient education to its students by utilizing rich resources provided by the university. Institute is equipped with high-tech facilities for its Students, Researchers, and Faculty. The faculty is comprised of 46 highly qualified faculty members, with 33 Ph.D. degree holders in relevant fields and also HEC and DUHS Ph. D approved research supervisors. During their study of courses, students are also provided with the opportunity to carry out clinical ward rounds under the supervision of experienced faculty members and healthcare professionals. This training enables the potential pharmacist to play a significant role in strengthening the quality of health care services in our society. Students of fourth and fifth professionals complete their training in Pharmaceutical service centers of Dow University Hospital and Civil Hospital (ambulatory dispensing area, emergency room pharmacy, in-patient pharmacy, out-patient pharmacy, bulk store, satellite pharmacy) and different wards (unit) like Medical ICU, Neonatal care unit, Cardiac care unit, cardiac ward, institute of chest diseases, Gynaecology ward, Neuro. / Psychiatry ward, Gastroenterology ward, Paediatric ward, Dialysis center. This clinical training is conducted at Dow University Hospital and Civil Hospital. Till 2025, 13 batches of Pharm. D program have graduated from this institute. The entire group of passed-out Pharmacy graduates from Dow College of Pharmacy are offering professional services in various national and multinational organizations, both within and outside Pakistan.

The Faculty of Pharmaceutical Sciences, Dow College of Pharmacy comprised of three capacious building having an area of 82500 sq.ft overall. Each building has fully air-conditioned spacious lecture halls equipped with multimedia, and fully equipped laboratories including laboratories for Pharmaceutics, Pharmacology, Pharmaceutical Chemistry, Pharmacognosy, Industrial Pharmacy, Quality Management, Instrumentation, Anatomy, Physiology, Pathology, Microbiology, Physical Pharmacy, Pharmaceutical Preparation, Compounding and Dispensing and Pharmaceutical Biochemistry.

The university offers a full-time postgraduate program since 2013 in the key areas of Pharmacy and has developed the curriculum format to allow a greater range of options within the program to meet the requirements of pharmacists who have a passion for teaching and research careers in pharmacy

and allied health sciences. It provides a sound understanding of drug and disease and diagnostic

and instrumental approaches at the molecular level applying contemporary techniques of modern biomedicine. It provides opportunities to acquire and develop the skills of synthesis, analysis, and decision-making, required for careers in the field of pharmaceutical research. Thus, the students are trained as subject specialists, a researcher, and resource people, well equipped with the methodologies of modern trends of teaching and research in various disciplines of pharmaceutical sciences. Research students at DCOP is guided by a team of highly qualified HEC-approved supervisors, they are also provided facilities to work in advanced labs that will help in equipping the practicing pharmacists with the skills to progress into higher levels in all professions of pharmacy. This will enable them to meet the respective intra-disciplinary and cross-disciplinary challenges on the frontiers of pharmaceutical sciences including *in vitro*, *in vivo*, cellular, computer-aided-drug designing, and screening at molecular and genetic levels, etc.

The academic activities at Faculty of Pharmaceutical Sciences, Dow College of Pharmacy are divided into five major disciplines:

1. Pharmacology.
2. Pharmaceutics.
3. Pharmaceutical Chemistry.
4. Pharmacognosy.
5. Pharmacy Practice

PHARMACOLOGY

Pharmacology is the study concerned with all aspects of actions of drugs and other chemicals on living system. It explores the action of drugs, adverse effects, drug interaction, contraindications and their pharmacokinetics. It provides pre-clinical and clinical education in areas of Pharmacology, Therapeutics and Toxicology for undergraduate and post graduate students. Pharmacological research areas include Cardiovascular Pharmacology, Clinical Pharmacology, Molecular and Biochemical Pharmacology, Neurosciences and Inflammatory Pharmacology.

PHARMACEUTICS

Pharmaceutics is the science of drug manufacturing. It involves the processes from new chemical entity turning into a dosage form, modification into the existing formulation in order to enhance their safety and efficacy. This field encompasses the knowledge and guidelines for the manufacturing of formulation, facilities used for manufacturing and regulations for the pharmaceutical manufacturing and marketing.

PHARMACEUTICAL CHEMISTRY

Pharmaceutical Chemistry addresses chemical aspects of drug development, analytical procedures, important reactions involved in quantification and quality testing of drugs. Medicinal chemistry is the most important aspect of this branch of Pharmacy, along with the other courses which make the students aware and to handle various instruments to be used for the analytical purposes including pH meter, Conductivity meter, UV-Visible Spectrophotometer, HPLC, Mass Spectrophotometer, IR and NMR Spectrophotometer, etc.

PHARMACOGNOSY

Pharmacognosy focuses on natural sources of the drugs including plants, animals and minerals. This science includes study related to Procurement of drugs from said sources, effects of these drugs on animals as well as human subjects, drug profiles etc. It also covers the clinical aspects of herbal medicines with quality control, toxicity studies as well as herbal drug interactions. It also elaborates the industrial aspects that cover the cosmaceuticals, nutraceuticals and exploration of new herbal drugs.

PHARMACY PRACTICE

Department of Pharmacy Practice was established in the year 2014 Dec. 22nd, as per the requirements set forth by the Pharmacy Council of Pakistan. The curriculum of pharmacy practice has a major focus on practicing clinical skills in the community, hospital and clinical pharmacy setups learned in the classroom. It is mandatory for student to attend Ward rounds in two different hospital settings i.e. civil hospital, Dow University hospital and OICD, OJHA Campus. Students conduct ward rounds under the supervision of teaching faculty and with the facilitation of doctors to develop an understanding of patient history taking, lab data interpretation and enable them to suggest clinical interventions (i.e. via dose calculations and adjustments, detection of ADRs and interactions, following standard treatment guidelines and evidence based medicines).

Aims & Objectives of the Pharm.D. Program:

The Doctor of Pharmacy (Pharm.D.) curriculum prepares graduates who will have the capacity, up-to-date knowledge, strong ethical values, behavior, communication, writing and social skills that will enable them to pursue careers in:

1. Pharmaceutical care in health systems and community environment where appropriate medication usage and patient's safety is paramount.

2. Pharmaceutical industry and its quality systems.

3. Academia, research and development.

Aims:

To prepare pharmacy graduates whose scientific knowledge and skills enable them to work with the pace to ensure the quality in the design, manufacture, distribution and safe and effective use of pharmaceuticals in the society and clinical setting.

Objectives:

1. To keep pace with the advancements in the modern sciences.

2. To prepare the students to fulfill the industrial needs and they should be well versed with the basic medical and pharmaceutical sciences in order to prepare a dosage regimen for an individual patient.

3. Community pharmacy practice should be comprehensive.

4. Internship in various disciplines of Pharmacy should be implemented.

5. Update the syllabi of the Pharmacy keeping in view the current proposals, requirements and the Needs of the profession.

6. To make our graduates more skillful, competitive and knowledgeable both practically and theoretically.

7. To cater the local and international pharmacy needs.

8. Uniformity in the curriculum of Pharmacy at national level.

9. Credit hours should be harmonized i.e. practical and theory credit hours.

10. To make a health care practitioner who is expert in the use of medicine in all practical fields and are capable of disease state management specially to improve public health at large.

11. Upon graduation, the graduates should have the capacity, knowledge and capability to undertake career in;

a) Enhance patient safety to safe medication usage in community and health care systems

b) To work in the pharmaceutical industry and its quality system

c) To engage in academics and research i.e. Practice and Academics.

d) To prepare students as good human beings in serving the community i.e., ethics, communication skills, writing skills, behavior etc.

e) After graduation, he should become a member of health care team.

f) To help the stakeholders of pharmacy about the implications of WTO and TRIPS.

12. The syllabi should be more practical rather theoretical.

13. To include new things regarding OTC Pharmacy (Patient Pharmacist interaction).

14. To prepare pharmacy graduates for better pharmacy practice in the areas including clinical pharmacy, community pharmacy, hospital pharmacy and industrial pharmacy.

15. To add further in the curriculum clinical oriented areas as per demand of Pharm.D degree.

16. To update the current syllabi according to the needs of the national and international demand.

17. To develop graduates capable of catering the needs of national and international health organizations or authorities to help adapt the paradigm shift in the health care system.

18. To bring uniformity in the contents of the syllabi in line with International trends/ international universities imparting Pharm.D education.

19. To produce the graduates to meet the challenges of 21st century of health care problems.

PROGRAMS OFFERED AT DOW COLLEGE OF PHARMACY

Under graduate:

Doctor of Pharmacy (Pharm. D) (Morning & Evening)

Post Graduate:

M.Phil offered in all five major discipline.

Ph.D offered in all five major discipline.

SCOPE OF PHARMACY

Graduates of pharmacy program can work as an entrepreneur or in hospital setup. A pharmacist can find employment in a variety of fields, including pharmaceutical industries, hospitals, quality control, sales, marketing, research and development, and education. Pharmacy is a relatively stable career with room for advancements. The options a pharmacy graduates can consider include:

HOSPITAL PHARMACY

Hospital pharmacy is a health care service where a pharmacist engages himself in the selection, preparation, storage, compounding and /or dispensing of medicines and medical devices as well as advice patients, doctors, nurses and all healthcare professionals on how best to use them safely, effectively and efficiently.

COMMUNITY PHARMACY

As a community pharmacist, a pharmacist is *responsible for dispensing prescription and over-the-counter medicines that help people to* maintain and improve their lives. Since they can give rationale advice about health and medication to walk-in patients without an appointment, community pharmacists are regarded as the healthcare provider with the greatest accessibility to the general public.

PHARMACEUTICAL INDUSTRIES:

1. **DRUG MANUFACTURING**

Pharmaceutical industries employ pharmacy graduates where they work as production pharmacist and are responsible of supervising and managing the manufacturing processes of pharmaceutical products. They ensure compliance with quality standards, regulatory requirements and Good Manufacturing Practice (GMP) throughout the manufacturing process.

2. **QUALITY ASSURANCE**

Prior to the drug being packaged and bottled, a quality check step is required in the drug production process. The purpose of this step is to ensure that no harmful products are being sold. The importance of quality assurance in the pharmaceutical sector cannot be denied and requires services of a pharmacist.

3. **QUALITY CONTROL MANAGER**

Pharmacist can work as a Quality Control Manager, which is a continuation of the previous job scope. Pharmacists are employed to ensure that the medications are safe for consumption. They will also establish appropriate consumption limits for particular conditions as part of their work. Therefore, these people ought to be familiar with regional laws as well.

4. **SALE AND MARKETING**

In sales and marketing, pharmacy companies frequently hire recent graduates where they go to hospitals, pharmacies, and clinics to persuade them to stock their medications. Without a doubt, this position calls for strong interpersonal and communication skills.

5. **RESEARCH AND DEVELOPMENT**

In R&D, the main focus is on discovering new and improved medications or improving and enhancing already-available medications. This step may also involve minimizing side effects and securing patents for the novel medications. The pharmacist always has a chance to excel in this field.

6. **BUSINESS DEVELOPMENT**
7. **REGULATORY AFFAIRS**
8. **MEDICAL AFFAIRS**

9. **HIGHER EDUCATION**

There are many options for higher education in addition to looking for a job. Master and doctoral degrees are offered in different disciplines of pharmacy where the student can opt any depending on his personal interest.

ELIGIBILITY CRITERIA OF PHARM-D

- HSSC Pre-Medical or equivalent examination (e.g. A-Level, 12th grade etc) duly certified by IBCC with minimum 60% marks.
- Minimum passing marks in entry test shall be 25%
- Candidate's PRC & Domicile of Sindh

NUMBER OF SEATS OF PHARM-D

OPEN MERIT (Morning)	60
Self-Finance (Morning)	40
Self-Finance (Evening)	100
TOTAL	200

CATEGORIES OF SEATS

A. Open Merit (merit cum choice)

B. Self- Finance Morning & Evening (merit cum choice)

A. OPEN MERIT (merit cum choice)

- **60 (Sixty)** seats have been reserved for Open Merit candidates with Sindh domicile who have studied Matric / O Level or equivalent and Inter / A Level or equivalent with 60% marks.

B. Self- Finance (Morning and Evening) [merit cum choice]

- **40 (Forty)** seats for morning and **100 (Hundred) seats for evening** are reserved for candidates, fulfilling the eligibility criteria of open merit to be selected on merit cum choice basis.

NOTE:

Admissions will be offered on MERIT CUM CHOICE BASIS in both CATEGORIES.

ACCREDITION DETALS OF DOW COLLEGE OF PHARMACY, DUHS

Dow College of Pharmacy aims to offer highest standard of education and research in the country. We endeavor to achieve our objectives in alignment with the pertinent regulatory requirements. In this regard we have always followed guidelines from the "Higher Education Commission of Pakistan (HEC)" and "Pharmacy Council of Pakistan (PCP)".

The Pharm.D Morning and Evening Programs and Postgraduate Programs (M.Phil in all 5 disciplines and PhD in all 5 disciplines) offered by Dow College of Pharmacy, are accredited by Pharmacy Council of Pakistan and Higher Education Commission of Pakistan.

The Higher Education Commission of Pakistan is an independent, autonomous, and constitutionally established institution of primary funding, overseeing, regulating, and accrediting the higher education efforts in Pakistan. We feel delighted to declare accreditation of Dow College of Pharmacy by the HEC, Pakistan.

The Pharmacy Council Pakistan (PCP) is the regulator established in terms of the Pharmacy Act, 1967 to regulate pharmacists, pharmacy support personnel and pharmacy premises in Pakistan. PCP is a professional body responsible for the registration of pharmacists and promotion of pharmacy education in the country. Dow College of Pharmacy has its graduate and undergraduate programs accredited by the PCP.

PROGRAM STRUCTURE – DOCTOR OF PHARMACY

The Doctor of Pharmacy program is structured in accordance with the provisions of the HEC Undergraduate Education Policy V 1.1., comprises of minimum 195 credit hours and spread over ten (10) regular semesters.

MININUM CREDIT HOURS FOR AWARD OF PHARM.D DEGREE		195 (if specialization is not opted)
GENERAL EDUCATION COURSES		34 credit hours (14 courses as prescribed by HEC)
MAJOR (141 CREDITS)	**Core Courses** i. Pharmacology ii. Pharmacy Practice iii. Pharmaceutics iv. Pharmacognosy v. Pharmaceutical Chemistry	141 credit hours (38 courses)
INTERDISCIPLINARY / ALLIED COURSES		14 credit hours (4 courses)
FIELD EXPERIENCE (PHARMACY PRACTICE EXPERIENCE)		3 credit hours (Clinical Pharmacy Clerkship)
CAPSTONE PROJECT		3 credit hours
PROGRAM DURATION		Minimum: 5 Years Maximum: 7 Years (Further extendable to another year subject to approval of university's statutory body)
SEMESTER DURATION		16-18 weeks for regular semesters (1-2 weeks for examination)
COURSE LOAD (PER SEMESTER)		15-21 credit hours for regular semesters
3 CREDIT HOURS (THEORY)		3 classes (1 hour each) OR 2 classes (1.5 hour each) OR 1 class (3 hours) per week throughout the semester
1 CREDIT HOUR (LAB / FIELD WORK)		1 credit hour in laboratory or practical work would require lab / field contact of 3 hours per week throughout the semester.

SCHEME OF COURSES FOR PHARM-D
(FIVE YEAR SEMESTER SYSTEM)

Standard Scheme of Study for the program of Doctor of Pharmacy program is given as under:

SEMESTER I

COURSE CODE	COURSE NAME	CREDIT HOURS	CATEGORY
PS-301	Physical Pharmacy - I [Th]	3	Major: Core (Department of Pharmaceutics)
PS-303	Physical Pharmacy – I [Lab]	1	Major: Core (Department of Pharmaceutics)
PS-305	Organic Chemistry – I [Th]	3	Major: Core Department of Pharmaceutical Chemistry)
PS-307	Organic Chemistry – I [Lab]	1	Major: Core (Department of Pharmaceutical Chemistry)
PS-309	Biochemistry – I [Th]	2	Major: Core (Department of Pharmaceutical Chemistry)
PS-311	Biochemistry – I [Lab]	1	Major: Core (Department of Pharmaceutical Chemistry)
PS-313	Physiology-I	3	Allied/Interdisciplinary (Department of Pharmacology)
PS-315	Physiology-I [Lab]	1	Allied/Interdisciplinary (Department of Pharmacology)
PS-317	Functional English *	3	General Education (Department of Pharmacognosy)
TOTAL CREDITS (18)			

SEMESTER II

COURSE CODE	COURSE NAME	CREDIT HOURS	CATEGORY
PS-302	Physical Pharmacy – II [Th]	3	Major: Core (Department of Pharmaceutics)
PS-304	Physical Pharmacy – II [Lab]	1	Major: Core (Department of Pharmaceutics)
PS-306	Organic Chemistry – II [Th]	3	Major: Core (Department of Pharmaceutical Chemistry)
PS-308	Organic Chemistry – II [Lab]	1	Major: Core (Department of Pharmaceutical Chemistry)
PS-310	Biochemistry – II [Th]	2	Major: Core (Department of Pharmaceutical Chemistry)
PS-312	Biochemistry – II [Lab]	1	Major: Core (Department of Pharmaceutical Chemistry)
PS-314	Anatomy & Histology [Th]	2	Allied/Interdisciplinary (Department of Pharmacology)
PS-316	Anatomy & Histology [Lab]	1	Allied/Interdisciplinary (Department of Pharmacology)
PS-318	Physiology-II [Th]	3	Allied/Interdisciplinary (Department of Pharmacology)
PS-320	Physiology-II [Lab]	1	Allied/Interdisciplinary (Department of Pharmacology)
PS-322	Islamic Studies*	2	General Education (Department of Pharmacognosy)
TOTAL CREDITS (20)			

SEMESTER III

COURSE CODE	COURSE NAME	CREDIT HOURS	CATEGORY

PS-401	Drug Delivery Systems and Formulation Science – I [Th]	3	Major: Core (Department of Pharmaceutics)
PS-403	Drug Delivery Systems and Formulation Science – I [Lab]	1	Major: Core (Department of Pharmaceutics)
PS-405	Pharmacology and Therapeutics-I [Th]	3	Major: Core (Department of Pharmacology)
PS-407	Pharmacology and Therapeutics-I [Lab]	1	Major: Core (Department of Pharmacology)
PS-409	Pharmacognosy - I [Th]	3	Major: Core (Department of Pharmacognosy)
PS-411	Pharmacognosy - I [Lab]	1	Major: Core (Department of Pharmacognosy)
PS-413	Pathology [Th]	2	Allied/Interdisciplinary (Department of Pharmacology)
PS-415	Pathology [Lab]	1	Allied/Interdisciplinary (Department of Pharmacology)
PS-417	Basic Pharmaceutical Microbiology** [Th]	2	General Education, Natural Sciences (Department of Pharmaceutics)
PS-419	Basic Pharmaceutical Microbiology** [Lab]	1	General Education, Natural Sciences (Department of Pharmaceutics)
TOTAL CREDITS (18)			

SEMESTER IV

COURSE CODE	COURSE NAME	CREDIT HOURS	CATEGORY
PS-402	Drug Delivery Systems and Formulation Science – II [Th]	3	Major: Core (Department of Pharmaceutics)
PS-404	Drug Delivery Systems and Formulation Science – II [Lab]	1	Major: Core (Department of Pharmaceutics)
PS-406	Applied Pharmaceutical Microbiology and Immunology [Th]	3	Major: Core (Department of Pharmaceutics)
PS-408	Applied Pharmaceutical Microbiology and Immunology [Lab]	1	Major: Core (Department of Pharmaceutics)
PS-410	Artificial Intelligence in Pharmacology and Therapeutics (Pharmacology and Therapeutics-II) [Th]	3	Major: Core (Department of Pharmacology)
PS-412	Artificial Intelligence in Pharmacology and Therapeutics (Pharmacology and Therapeutics-II) [Lab]	1	Major: Core (Department of Pharmacology)
PS-414	Pharmacognosy - II [Th]	3	Major: Core (Department of Pharmacognosy)
PS-416	Pharmacognosy - II [Lab]	1	Major: Core (Department of Pharmacognosy)
PS-418	Pakistan Studies *	2	General Education (Department of Pharmacognosy)
PS-420	Fehm-e-Quran I*	1	General Education (Department of Pharmacology)
TOTAL CREDITS (19)			

SEMESTER V

COURSE CODE	COURSE NAME	CREDIT HOURS	CATEGORY
PS-501	Applied Pharmacognosy [Th]	3	Major: Core (Department of Pharmacognosy)
PS-503	Applied Pharmacognosy [Lab]	1	Major: Core (Department of Pharmacognosy)
PS-505	Pharmaceutical Analysis-I [Th]	3	Major: Core (Department of Pharmaceutical Chemistry)
PS-507	Pharmaceutical Analysis-I [Lab]	1	Major: Core (Department of Pharmaceutical Chemistry)
PS-509	Pharmacology and Therapeutics-III [Th]	3	Major: Core (Department of Pharmacology)
PS-511	Pharmacology and Therapeutics-III [Lab]	1	Major: Core (Department of Pharmacology)
PS-513	Hospital and Community Pharmacy	2	Major: Core (Department of Pharmacy Practice)
PS-515	Quantitative Reasoning – I *	3	General Education (Department of Pharmaceutical Chemistry)
PS-517	Ideology & Constitution of Pakistan *	2	General Education (Department of Pharmacology)
PS-519	Fehm-e-Quran II*	1	General Education (Department of Pharmacology)
TOTAL CREDITS (20)			

SEMESTER VI

COURSE CODE	COURSE NAME	CREDIT HOURS	CATEGORY
PS-502	Advanced Pharmacognosy [Th]	3	Major: Core (Department of Pharmacognosy)
PS-504	Advanced Pharmacognosy [Lab]	1	Major: Core (Department of Pharmacognosy)
PS-506	Dispensing, Social & Administrative Pharmacy	2	Major: Core (Department of Pharmacy Practice)
PS-508	Pharmaceutical Analysis-II [Th]	3	Major: Core (Department of Pharmaceutical Chemistry)
PS-510	Pharmaceutical Analysis-II [Lab]	1	Major: Core (Department of Pharmaceutical Chemistry)
PS-512	Pharmacology and Therapeutics-IV [Th]	3	Major: Core (Department of Pharmacology)
PS-514	Pharmacology and Therapeutics-IV [Lab]	1	Major: Core (Department of Pharmacology)
PS-516	Applications of ICT [Th] (Especial focus on Pharmacy) *	2	General Education (Department of Pharmaceutics)
PS-518	Applications of ICT [Lab] (Especial focus on Pharmacy) *	1	General Education (Department of Pharmaceutics)
PS-520	Quantitative Reasoning-II*	3	General Education (Contents of Biostatics added) (Department of Pharmaceutical Chemistry)
TOTAL CREDITS (20)			

SEMESTER VII

COURSE CODE	COURSE NAME	CREDIT HOURS	CATEGORY
PS-601	Industrial Pharmacy – I [Th]	3	Major: Core (Department of Pharmaceutics)
PS-603	Industrial Pharmacy – I [Lab]	1	Major: Core (Department of Pharmaceutics)
PS-605	Biopharmaceutics and Pharmacokinetics – I [Th]	3	Major: Core (Department of Pharmaceutics)
PS-607	Biopharmaceutics and Pharmacokinetics – I [Lab]	1	Major: Core (Department of Pharmaceutics)
PS-609	Clinical Pharmacy-I [Th]	3	Major: Core (Department of Pharmacy Practice)
PS-611	Clinical Pharmacy-I [Lab]	1	Major: Core (Department of Pharmacy Practice)
PS-613	Pharmaceutical Quality Management System	3	Major: Core (Department of Pharmaceutics)
PS-615	Expository Writing *	3	General Education (Department of Pharmacy Practice)
PS-617	Entrepreneurship *	2	General Education (Department of Pharmacy Practice)
TOTAL CREDITS (20)			

SEMESTER VIII

COURSE CODE	COURSE NAME	CREDIT HOURS	CATEGORY
PS-602	Industrial Pharmacy – II [Th]	3	Major: Core (Department of Pharmaceutics)
PS-604	Industrial Pharmacy – II [Lab]	1	Major: Core (Department of Pharmaceutics)
PS-606	Biopharmaceutics and Pharmacokinetics – II [Th]	3	Major: Core (Department of Pharmaceutics)
PS-608	Biopharmaceutics and Pharmacokinetics – II [Lab]	1	Major: Core (Department of Pharmaceutics)
PS-610	Clinical Pharmacy-II [Th]	3	Major: Core (Department of Pharmacy Practice)
PS-612	Clinical Pharmacy-II [Lab	1	Major: Core (Department of Pharmacy Practice)
PS-614	Civics & Community Engagement* (Fulfill requirement of Pharmacy Practice-III)	1	General Education (Department of Pharmacy Practice)
PS-616	Civics & Community Engagement* (Fulfill requirement of Pharmacy Practice-III)	1	General Education (Department of Pharmacy Practice)
PS-618	Pharmaceutical Quality Control [Th]	2	Major: Core (Department of Pharmaceutical Chemistry)
PS-620	Pharmaceutical Quality Control [Lab]	1	Major: Core (Department of Pharmaceutical Chemistry)
PS-622	Pharmaceutical Management and Marketing**	2	General Education (Social Sciences) (Department of Pharmacy Practice)
TOTAL CREDITS (19)			

SEMESTER IX

COURSE CODE	COURSE NAME	CREDIT HOURS	CATEGORY
PS-701	Pharmaceutical Technology – I [Th]	3	Major: Core (Department of Pharmaceutics)
PS-703	Pharmaceutical Technology – I [Lab]	1	Major: Core (Department of Pharmaceutics)
PS-705	Pharmaceutical Regulatory Science-I	3	Major: Core (Department of Pharmacy Practice)
PS-707	Medicinal Chemistry-I [Th]	3	Major: Core (Department of Pharmaceutical Chemistry)
PS-709	Medicinal Chemistry-I [Lab]	1	Major: Core (Department of Pharmaceutical Chemistry)
PS-711	Advanced Clinical Pharmacy-I [Th]	3	Major: Core (Department of Pharmacy Practice)
PS-713	Advanced Clinical Pharmacy-I [Lab]	1	Major: Core (Department of Pharmacy Practice)
PS-715	Clinical Pharmacology [Th]	2	Major: Core (Department of Pharmacology)
PS-717	Clinical Pharmacology [Lab]	1	Major: Core (Department of Pharmacology)
PS-719	Field Experience /Clinical Pharmacy Clerkship	3	Department of Pharmaceutics & Department of Pharmacy Practice
TOTAL CREDITS (21)			

SEMESTER X

COURSE CODE	COURSE NAME	CREDIT HOURS	CATEGORY
PS-702	Pharmaceutical Technology – II [Th]	3	Major: Core (Department of Pharmaceutics)
PS-704	Pharmaceutical Technology – II [Lab]	1	Major: Core (Department of Pharmaceutics)
PS-706	Pharmaceutical Regulatory Science-II	3	Major: Core (Department of Pharmacy Practice)
PS-708	Medicinal Chemistry-II [Th]	3	Major: Core (Department of Pharmaceutical Chemistry)
PS-710	Medicinal Chemistry-II [Lab]	1	Major: Core (Department of Pharmaceutical Chemistry)
PS-712	Advanced Clinical Pharmacy-II [Th]	3	Major: Core (Department of Pharmacy Practice)
PS-714	Advanced Clinical Pharmacy-II [Lab]	1	Major: Core (Department of Pharmacy Practice)
PS-716	Bioethics (Arts & Humanities Category) **	2	General Education (Department of Pharmacy Practice)
PS-718	Capstone Project ***	3	All five departments.
TOTAL CREDITS (20)			

TOTAL CREDIT HOURS = 195

ASSESSMENT METHODS

EXAMINATION RULES

CRITERIA FOR AWARD OF DEGREE:

The following minimum requirements are prescribed for the award of Doctor of Pharmacy:

a) All courses in the General Education category as prescribed in HEC Undergraduate Education Policy V 1.1. including the courses of "Pakistan Studies and Fehm-e-Quran" must be completed.

b) Minimum of 195 credit hours are required for the award of Pharm-D degree.

c) Capstone/research project of three (03) credit hours must be completed in accordance with HEC Undergraduate Education Policy V 1.1.

d) Internship/Field experience of three (03) credit hours must be completed in accordance with HEC Undergraduate Education Policy V 1.1. This requirement cannot be substituted with additional coursework, capstone, research or project work.

e) CGPA must not be below 2.00/4.00 at the time of completion of the degree program. The university may, however, set a higher standard in this regard.

f) A student who is declared fail in practical shall have to re-appear in practical only, while a student who is declared fail in theory shall have to re-appear in theory only. The weightage distribution of theory and practical for the calculation of CGPA in all courses shall be as per distribution of the marks.

CRITERIA FOR PROMOTION TO NEXT ACADEMIC YEAR:

1. Any Students, who fails to pass the **First Professional Exam** in five chances availed or unavailed, shall cease to pursue further Pharmacy Education.

2. A student would be promoted to next higher class upon clearing **all courses of previous academic year(s).** In case of any misinterpretation and discrepancy, Principal's committee decision would be the final.

3. Attendance in each course will be compulsory for all students and no students will be eligible to appear in any course in the University examination unless he/she has attended 75% percent attendance.

   i. The attendance of students admitted in the university will be counted from the 1st day of semester and not from the date of admission.

   ii. Students called for national duty such as participation in Olympics, National or, Inter- varsities, games or going to perform Hajj would be given exemption in attendance. These cases would be decided on individual basis.

   iii. If a student is unable to attend classes continuously for 15 days or more without informing the Dean/Chairpersons of the Departments (in writing) his/her admission will stand cancelled. In case of illness or other similar situations, application along with a medical certificate from a registered medical practitioner duly verified by the Senior Medical Officer of the University must be submitted within two days after the ailment.

   iv. Original attendance record is to be submitted to the Principal for record and

future reference.

4. The percentage of pass marks in each subject is not less than 50 percent both in theory and practical.

5. Grace marks are not allowed.

6. If a student fails in Theory and Pass in Practical examination, he/she will have to appear in theory exam and not in practical examination so is the case vice versa.

7. If fails in theory and practical both, he/she has to appear in both examination.

8. Distribution of 100 marks for Theory papers is as follows:

    i. 30 Marks for Mid Term examination (40% Objective, 60% Subjective).

    ii. 70 Marks for Terminal examination (40% Objective, 60% Subjective)

9. OSPE (LAB) examination is of 100 marks. External examiner shall always be present with internal examiner for written, oral and practical parts of exam.

    Marks distribution of OSPE is as follows.

    i. 80 Marks for Terminal examination

    ii. 20 Marks for Internal Evaluation.

SCHEDULE OF RETAKE EXAMINATION

Retake Exam for Odd Semester will be conducted just after the Even Semester exams. and Retake Exam of Even Semester will be conducted after the result of Even Semester Exam.

GRADING SYSTEM

Numerical Grade (NG)

Assessment of performance on the basis of marks out of 100 fixed for a course of 1 or 3 credit hours unit is NG.

Alphabetical Grade (AG)

Equivalent of numerical grades in terms of alphabets shall be termed as alphabetical grades. (Each letter carries a value in terms of numerical points).

Grading

Marks obtained in Percentage Range	GPA	GRADE
80-100	4.0	A+
75-79	4.0	A
70-74	3.7	A-
67-69	3.3	B+
63-66	3.0	B
60-62	2.7	B-
56-59	2.3	C+
50-55	2.0	C
00-49	0.0	F
Absent	0.0	Abs

DUHS STUDENT'S CONDUCT RULES

A. STUDENT'S CONDUCT RULES

(Applicable to Undergraduate and Postgraduate students of the University and its constituent or affiliated institutions)

These rules are applicable to all students who are admitted to the Dow University of Health Sciences, and include undergraduate and postgraduate medical and dental students, nurses and all those being trained in medical and allied health sciences.

1. No student or group of students shall form society / association / organization with permission from Principal of College.
2. No outsider will be invited by the students to address any meeting at the University or its constituent college / institute / school, hospital etc whether academic, social, religious or political (without prior written permission of the authorities). Decision of authorities will be final and taken on case to case basis.
3. Students are not allowed to paste any poster, pamphlet or fix banners on the wall. Graffiti on walls (wall chalking) of the premises of the University or its constituent college / institute / school, hospital etc be they, academic, social, religious or political, are also not allowed.
4. During teaching hours and / or Clinical posting, students are prohibited to play or roam around in the premises.
5. No student or group of students shall arrange any program, picnic, musical concert sports activities etc, on their own, without prior written permission from the authorities.
6. No student or group of students are allowed to collect money for any purpose whatsoever.
7. University / College Identity Card, (ID) should be displayed, at all times, when the students are in the premises of the University or its constituent college / institute / School / Hospital etc. Faculty members and security staff are authorized to check I.D cards at any time.
8. If any student wants to publish his/her scientific or literary article, he/she must get the draft approved, by the authorities. They are also required to submit the copy of the final article / paper (to be published) for record purposes to the University.
9. Students will not be allowed to address the media or the national press on any subject.
10. Students are forbidden to address higher authorities directly. Any communication intended for higher authorities, needs to be routed through proper channel (Vice Chancellor / Principal / Medical Superintendent / Director)
11. Smoking, pan chewing, littering, spitting and other activities, prejudicial to the conduct are prohibited in the classroom, laboratories, seminar / tutorial rooms, library during and after college hours and wards during clinical postings.
12. Unless specifically permitted, no student or group of students are allowed to enter administrative and department offices / telephone exchange, or teaching areas like laboratory, lecture hall of the institution or department and / or use office equipment(s) / machinery, like telephone, computer, printer, typewriter, overhead projector, slide projector or multimedia etc.
13. No student is allowed to bring a weapon and/or ammunition, liable to cause injury, or any other harmful item, inside the premises.
14. No student or group of students will threaten, stop, harass, forcibly disallow or evict another bonafide student or group of students.
15. Misbehavior with faculty members and other staff members of the University and / or its constituent college / institute / school, hospital etc, by a student or a group of students is completely prohibited. Such misdemeanors would attract penalties as severe as expulsion and rustication.
16. Willful damage to either public or personal property in the University and / or its constituent college / institute / school etc, by a student or a group of students, is completely prohibited. Such misdemeanors would be liable to penalties as severe as expulsion and rustication.

17. Use of loud speakers / amplifiers, megaphone is prohibited in the premises of the University.
18. No student will be allowed to park his / her car inside the premises of the college / University unless specifically allowed by the competent authority.

(A) SUSPENSION

A student shall be liable for suspension upto six months if he/she commits any of the following act:-

1. Misbehaves or quarrels with any teacher or member of the staff.
2. Is generally disobedient.
3. Spreads false rumours.
4. Uses unbecoming, indecent or filthy language.
5. Incites other students to violence.
6. Is inappropriately dressed.
7. Shouts, abuses, quarrels or fights with fellow students.
8. Raises slogans to hurt others, politically or religiously.
9. Interferes with the administration, including the mode or schedule of the examination.
10. Indulges in acts of immorality.
11. Indulges in any kind of political activity including displaying posters or play cards within the College.
12. Remains absent continuously for more than 4 weeks without prior permission.

(B) RUSTICATION

A student may be rusticated for a period of 3 years due to any of the following acts:-

1. Taking forceful possession, making unauthorized use or damaging any property.
2. Involving himself in any agitational activity.
3. Found indulging in activities, prejudicial and detrimental to the good order of the College.
4. Adopting unfair means during examination.
5. Disobeying an order of suspension passed against him.
6. Any other act, which the principal or the disciplinary committee considers inappropriate.
7. Anybody who does not submit the prescribed undertaking about non-involvement in political activities.

NOTE:-

Any student suspended or rusticated for the reasons mentioned above shall not be allowed to appear in the examinations.

(C) EXPULSION

A student is liable to be expelled from the college if he/she commits any of the following act and this order shall be final and irrevocable. If he/she.

1. Is found in possession of fire arms or lethal weapons or Narcotic drugs in the college premises,

hostels, examination halls, teaching hospitals or any other area as specified by the university administration.

2. Remains absent for more than three months without permission of the Principal / Director, his/her admission shall be cancelled by the disciplinary committee of that college / institute.

STUDENT'S DISCIPLINARY RULES & PROCEDURE

Any student indulging in conduct contrary to the above mentioned rules shall be dealt with in accordance with the Dow University of Health Sciences Conduct Rules and the procedure mentioned below:

1. Each constituent college will have a Disciplinary Committee to be notified with the approvalof the Vice Chancellor to deal with all the disciplinary matters.
2. The Principal on suo moto or on any complaint, may initiate action against any student of the college and refer the case to the Disciplinary Committee of the college for appropriate recommendation.
3. Before taking any action, the Principal shall serve a show cause notice to the student indicating briefly the charges against him. The accused student will have to give a written reply within seven days. He/She will be afforded a chance for personal hearing after which the Principal of the constituent college is empowered to suspend, rusticate or expel the student.
4. The student to whom the Principal has suspended, rusticated or expelled from the college may make appeal to the Vice Chancellor against the decision of the Principal within 30 days.
5. Any student whose name appears in the F.I.R. pertaining to any non-bailable offence as specified in the criminal procedure code (Cr.P.C.) will be suspended. During the pendency of the case he/she will not be allowed classes or take up any examination.

DRESS CODE

ALL STUDENTS MUST WEAR WHITE COAT IN THE CAMPUSES OF DMC AND OJHA CAMPUS (WITH A TAG HAVING NAMED AND CLASS) AND DECENT SHOES / SANDLE BUT NO SLIPPERS, IN CASE OF DEFAULT THEY WILL NOT BE ALLOWED TO ENTER OR A DISCIPLINARY ACTION WILL BE TAKEN.

ATTENDANCE

STUDENTS HAVING ATTENDENCE IN THE CLASS OF LESS THAN 75% WILL NOT BE ALLOWED TO APPEAR IN THE EXAMINATION.

RULES FOR LIBRARY

1. **One book can be borrowed from the library at one time.**

   - Books will not be issued without library card.
   - Book can be borrowed for a maximum period of 3 days.
   - There is no lending facility for reference books, CD's periodicals and newspapers.

2. **Any title in the lending section can be reserved in advance, Please make request at the library desk.**

3. **The following rules pertain to re-issuance of books.**

   - Books can be issued consecutively two times only.

4. **A late fine will be changed if book is returned late.**

   - Rs. 50/= per book per day.

5. **The following rules pertain to book lost / damaged.**

   - In case of damage, full price of the book will be charged.
   - In case of loss, 200% price of the book will be charged.
   - No marking, either in pencil, pen or highlighter is allowed on the books. The ook will be inspected at the time of return. In case books are found marked, a fine of Rs. 50 will be charged.

6. **Reference books will not be issued for photocopy.**

7. Membership can be cancelled for a minimum period of 10 days and this period can be increased in case the student is found continuing violation of rules of library.

Financial Assistance

- Financial assistance is provided to the students through various Prime Minister Scheme such as Ehsaas Scholarship, HEC Need Based Scholarship Sindh Endowment Fund, Zahid Bashir and Dow97 foundation and Ahsan trust sponsored by Meezan bank based on merit cum need basis and etc.

- The university also provides fee installment facility to the needy and deserving students.

FACILITIES AND SALIENT FEATURES

- There are Spacious class rooms with Audio Visual facilities and centrally air condition for lecture delivery as per advanced teaching methodology, tutorial rooms, animal house, medicinal garden, examination hall and seminar hall for academic activities of the students.
- Excellent laboratory facilities are provided to students where they can work and learn properly. The laboratories are well equipped spacious space laboratories for hands on training during education with latest equipment/machines
- Well provided Library with all types of books and Research Journals on all topics that will be taught to you.
- Digital Library with more than 200 separate working stations for each student for hands on training of Computer and advanced software applications in Pharmacy.
- There is fully maintained animal house that provides animals for the smooth execution of pharmacological experiments.
- Students are properly evaluated through well-structured and organized examination system.
- Regular seminars, workshops and conferences are organized for the dissemination of updated knowledge. Frequent career counseling sessions are also conducted.
- Students are with facility of mentorship in academic and administrative affairs.
- There is also a network of alumni for students' facilitation and inspiration.
- Students are also encouraged to participate in the student's week organized by university that includes sport week, talent show, cooking, body building, singing and poetry competition etc.
- Centralized mosque and spacious cafeteria are also available in the university premises.

FACILITIES

In house Facilities :



Pharmacetuics Lab



Microbiology Lab



Pharmaceutical Chemistry Lab



Pharmacology Lab



Pharmacognosy Lab



Industrial Pharmacy Lab