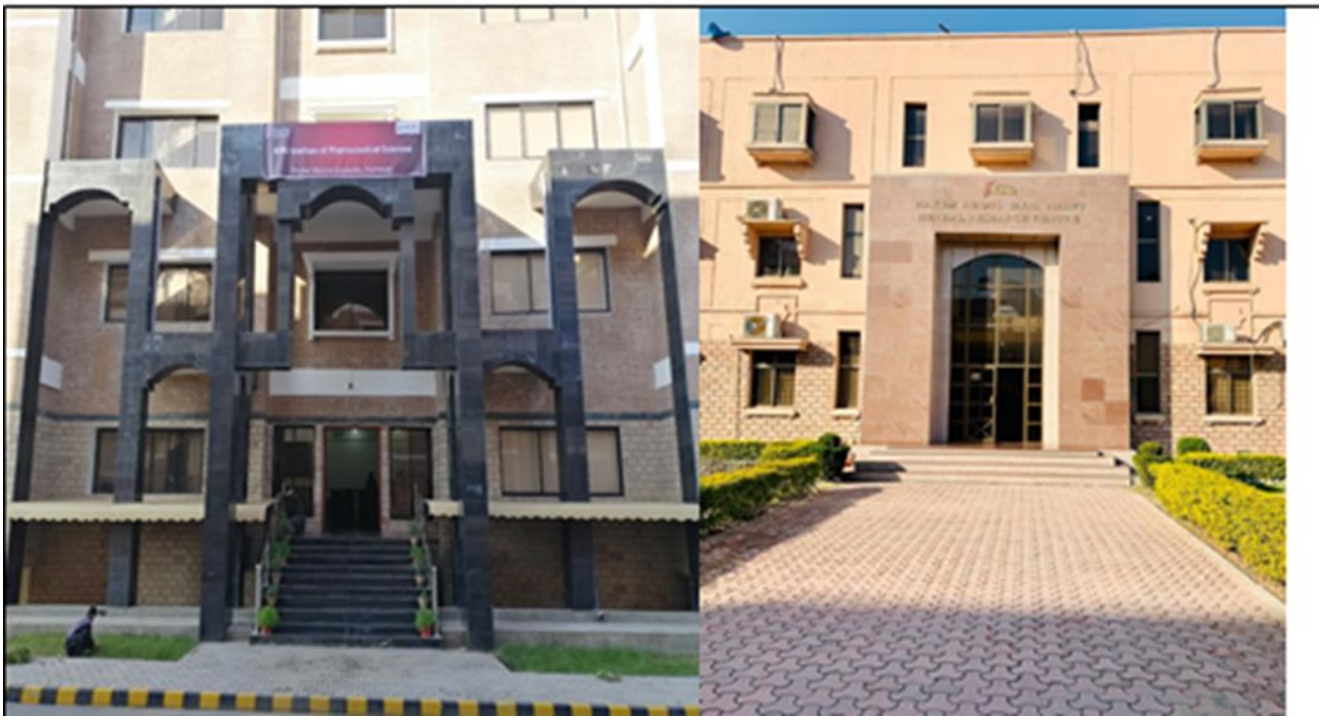
KHYBER MEDICAL UNIVERSITY

INSTITUTE OF PHARMACEUTICAL SCIENCES

STUDENT GUIDEBOOK



MESSAGE FROM THE DIRECTOR

It gives me immense pleasure to welcome you to the Institute of Pharmaceutical Sciences (IPS), Khyber Medical University. Since its inception, IPS has been committed to excellence in pharmacy education, research, and professional practice. Our mission is to prepare competent pharmacists, researchers, and academicians who can contribute meaningfully to the healthcare system and pharmaceutical industry, both nationally and globally.

The institute offers a comprehensive academic pathway, beginning with the Doctor of Pharmacy (Pharm-D) program and extending to advanced postgraduate studies including MS and PhD in Pharmaceutics and Pharmacology. These programs are designed to foster innovation, critical thinking, and leadership, equipping our graduates with the skills required to address the dynamic challenges of modern healthcare and drug development.

The Pharm-D program at the Institute of Pharmaceutical Sciences, Khyber Medical University, is dedicated to preparing skilled and ethical pharmacy professionals. We aim to provide high-quality education that integrates pharmaceutical sciences with clinical practice to advance patient-centered care. Our mission is to foster innovation, research, and leadership in pharmacy to meet national and global healthcare challenges. We emphasize professionalism, integrity, and lifelong learning to ensure graduates contribute meaningfully to society. Through excellence in teaching, research, and service, we strive to strengthen healthcare systems and promote the safe and effective use of medicines.

At IPS, students benefit from highly qualified faculty, state-of-the-art laboratories, and a research-driven environment that nurtures scientific inquiry and professional growth. We emphasize not only academic excellence but also ethical practice, community service, and lifelong learning.

I invite you to explore the opportunities IPS offers and to join us in our mission of advancing pharmaceutical sciences for the betterment of society. Together, we can shape a healthier future through knowledge, innovation, and dedication.

Prof. Dr. Sami Siraj
Director Institute of Pharmaceutical Sciences

MISSION, VISION & OBJECTIVES

Vision

To be a global leader in pharmacy and pharmacology education, research, and practice, advancing patient-centered care and transformative healthcare innovation.

Mission

To educate and empower future pharmacists with clinical excellence, ethical practice, and innovation, equipping them to advance healthcare through evidence-based practice, research, and community engagement.

Objectives

1. To keep pace with the advancements in the modern sciences.
2. To prepare the students to fulfill the industrial needs and be well versed with the basic medical and pharmaceutical sciences in order to prepare a dosage regimen for an individual patient.
3. To make our graduates more skillful, competitive and knowledgeable both practically and theoretically.
4. To cater the local and international pharmacy needs.
5. 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.
6. To prepare pharmacy graduates for better pharmacy practice in the areas including clinical pharmacy, community pharmacy, hospital pharmacy and industrial pharmacy.

SCOPE OF PHARM-D PROGRAM

There is a dire need for professionals within the healthcare sector in Pakistan and outside. Given the positive rate of population growth, increased longevity, poor hygiene, and unhealthy lifestyles that invariably culminate in infectious or non-communicable disease, the demand for doctors, nurses, pharmacists, and other allied health professionals is likely to increase significantly over time. In view of the foregoing, the future of high quality healthcare professionals looks bright.

The Pharm-D program aims to produce human resources that will serve the healthcare sector of Pakistan. We anticipate that most of our graduates will be placed in pharmaceutical companies, hospitals, academic governmental institutions, while others will either become entrepreneurs or go abroad to further their education. Collectively, we hope that our graduates will go to serve the society at large in a significant way.

PHARM-D CURRICULUM

Doctor of pharmacy (Pharm-D) is a professional degree similar to that of other health sciences (e.g., medicine, dentistry). The program is of five (5) year duration and includes a combination of classroom lectures and laboratory-based learning. Clinical experience occurs during the fourth and fifth years and provides students with experiential training both in hospital pharmacy as well as advanced clinical roles in various specialty areas of medical sciences.

The discipline of pharmacy is divided into five main branches, namely:

1. Pharmaceutics
2. Pharmacology & therapeutics
3. Pharmaceutical chemistry
4. Pharmacognosy
5. Pharmacy practice

Additionally, several supportive subjects are also part of the curriculum that include physiology, histology, microbiology, anatomy, pathology, pharmaceutical mathematics, biostatistics, Pakistan studies and Islamic studies.

Summary of Courses Offered in Pharm-D Program

First Profession (First & Second Semester: 18 + 20 Credit hours)

Preliminary foundation courses are taught during the first year, which helps in the orientation of students to pharmacy profession and prepare them for understanding the basic principles of drug synthesis, formulation and mechanism of action. Physiology, histology, anatomy and biochemistry taught during the first year give students the background necessary for understanding pharmacology, clinical pharmacy, pharmaceutical preparations and pathology taught in the following years. The subjects of physical pharmacy and pharmaceutical organic chemistry imparts basic about drug synthesis and physiochemical properties. Moreover, English course included in the first professional helps the students to develop writing, communication and critical thinking skills.

Second Profession (First & Second Semester: 18 + 19 Credit hours)

This professional year covers three fundamental core subjects of pharmacy (e.g., Pharmacology & Therapeutics, Pharmaceutics (dosage form and calculation of doses) and Pharmacognosy. An AI-based pharmacology teaching approach has been adopted in the new HEC curriculum. It focuses on the Use of AI to:

a. Predict drug-target interactions.
b. find new uses of existing drugs
c. Predict drug Absorption, Distribution, Metabolism, and Excretion properties.
d. Use of AI In developing personalized medicine

e. Use of AI to improve the accuracy of molecular docking by predicting binding affinities
f. AI powered smart inhalers

During this year, students learn about how various drugs affect human body and how the body deals with drugs. Students also learn about the natural products (plants and other) its isolation, traditional uses and therapeutic uses. The pharmaceutical dosage form taught during this year gives the initial know-how about some important types of dosage forms and its small scale laboratory preparation. To strengthen the practical knowledge of student there is a scheduled tour of collection of medicinal plants from the medicinal plants rich areas such as Swat, Dir, Galyats etc. In this year, the students also get the opportunity to have frequent visits to nearby pharmaceutical industries to observe the process of formulation of tablets, capsules, syrups, injectable and other pharmaceutical manufacturing processes.

Third Profession (First & Second Semester; 20 + 20 Credit hours)

Two core subjects (i.e. Pharmacology, & Therapeutics and Pharmacognosy) are continued in the third year to broaden student knowledge in these areas. Students are also taught about analytical instruments and techniques employed for drug testing and analysis. Additionally, dispensing, community, social & administrative pharmacy is also taught during this year

Fourth Profession (First & Second Semester; 20 + 19 Credit hours)

During fourth year, students learn about important pharmacy practice areas including hospital pharmacy, clinical pharmacy and also about industrial pharmacy, quality control of drugs and the release and bioavailability of drugs from different dosage form. In this year, the students pay scheduled visits to hospital for practical clinical observations.

Final Profession (First & Second Semester; 18 + 20 Credit hours)

In final year, pharmaceutical technology, medicinal chemistry, advanced clinical pharmacy, forensic pharmacy and pharmaceutical marketing and management are taught. It is during this year that students are required to undertake clinical clerkship project in hospital setting for a period of about 6 to 9 weeks. Upon completion, students are required to complete a report/thesis on their observations made in the hospital about the patients' condition and prescribed drugs. An industrial trip to various pharmaceutical industries is also an integral of the Pharm-D curriculum. As per the new Pharm-D curriculum field experience/internship is a mandatory degree award requirement of three (03) credit hours for the Pharm. D Program. Internships of six (06) to eight (08) weeks (preferably undertaken during semester or summer break) will be graded by a faculty member in collaboration with the supervisor in the field. Moreover Pharm. D students are required to complete three international certifications (non-credited, equivalent to 3 credit hours in total) over the period of five-year program as a mandatory condition for degree completion. Each certification will be considered equivalent to 1 credit hour if it comprises at least 16 hours. A capstone in this year is a mandatory degree award requirement of three (03) credit hours for the Pharm. D Program. A capstone project is a multifaceted body of work that serves as culminating academic and intellectual experience for students.

SCHEME OF STUDIES (PHARM-D PROGRAM)

Year 1 (Semester-I)			Year 1 (Semester-II)		
Course Code	**Course Title**	**Credit Hours**	**Course Code**	**Course Title**	**Credit Hours**
PHARM-611	Physical Pharmacy-I	3+1	PHARM-615	Physical Pharmacy-II	3+1
PHARM-612	Organic Chemistry-I	3+1	PHARM-616	Organic Chemistry-II	3+1
PHARM-613	Biochemistry-I	2+1	PHARM-617	Biochemistry-II	2+1
PHARM-614	Physiology-I	3+1	PHARM-618	Anatomy & Histology	2+1
GEN-601	Functional English	3+1	PHARM-619	Physiology-II	3+1
			GEN-602	Islamic Studies	2+0
Total		**18**	**Total**		**20**
Year 2 (Semester-III)			**Year 2 (Semester-IV)**		
PHARM-621	Drug Delivery Systems & Formulation-I	3+1	PHARM-626	Drug Delivery Systems & Formulation-II	3+1
PHARM-622	Pharmacology & Therapeutics-I	3+1	PHARM-627	Applied Microbiology & Immunology	3+1
PHARM-623	Pharmacognosy-I	3+1	PHARM-628	Pharmacology & Therapeutics-II	3+1
PHARM-624	Pathology	2+1	PHARM-629	Pharmacognosy-II	3+1
PHARM-625	Pharmaceutical Microbiology	2+1	GEN-603	Pakistan Studies	2+0
			GEN-604	Fehm-e-Quran-I	1+0
Total		**18**	**Total**		**19**
Year 3 (Semester-V)			**Year 3 (Semester-VI)**		
PHARM-631	Pharmacognosy (Applied)	3+1	PHARM-635	Pharmacognosy (Advanced)	3+1
PHARM-632	Pharmaceutical Analysis-I	3+1	PHARM-636	Dispensing Pharmacy	2+0
PHARM-633	Pharmacology & Therapeutics-III	3+1	PHARM-637	Pharmaceutical Analysis-II	3+1
PHARM-634	Hospital & Community Pharmacy	2+0	PHARM-638	Pharmacology & Therapeutics-IV	3+1
GEN-605	Quantitative Reasoning-I	3+0	GEN-608	ICT in Pharmacy	2+1
GEN-606	Ideology & Constitution of Pakistan	2+0	GEN-609	Biostatistics	3
GEN-607	Fehm-e-Quran-II	2+0			
Total		**20**	**Total**		**20**
Year 4 (Semester-VII)			**Year 4 (Semester-VIII)**		
PHARM-641	Industrial Pharmacy-I	3+1	PHARM-645	Industrial Pharmacy-II	3+1
PHARM-642	Biopharmaceutics & Pharmacokinetics-I	3+1	PHARM-646	Biopharmaceutics & Pharmacokinetics-II	3+1

PHARM-643	Clinical Pharmacy-I	3+1	PHARM-647	Clinical Pharmacy-II	3+1
PHARM-644	Pharmaceutical Quality Management	3+0	GEN-612	Civics & Community Engagement	1+1
GEN-610	Expository Writing	3+0	PHARM-648	Pharmaceutical Quality Control	2+1
GEN-611	Entrepreneurship	2+0	GEN-613	Pharmaceutical Marketing	2+0
Total		**20**	**Total**		**19**
Year 5 (Semester-IX)			**Year 5 (Semester-X)**		
PHARM-651	Pharmaceutical Technology-I	3+1	PHARM-656	Pharmaceutical Technology-II	3+1
PHARM-652	Regulatory Science-I	3+1	PHARM-657	Regulatory Science-II	3+0
PHARM-653	Medicinal Chemistry-I	3+1	PHARM-658	Medicinal Chemistry-II	3+1
PHARM-654	Advanced Clinical Pharmacy-I	3+1	PHARM-659	Advanced Clinical Pharmacy-II	3+1
PHARM-655	Clinical Pharmacology	2+1	GEN-614	Bioethics	2+0
			PHARM-650	Capstone Project	0+3
Total		**18**	**Total**		**20**

Eligibility Criteria

Candidates seeking admission must fulfill the following requirements:

- Higher Secondary School Certificate (involving 12 years of schooling) or an IBCC equivalent qualification in **Pre-**Medical Group with at least 60% cumulative score is the basic eligibility requirement for admission in the Doctor of Pharmacy (Pharm. D) program.
- Minimum 60% marks in the qualifying examination.
- Passing KMU admission test (if applicable)**.**
- Fulfillment of admission policies of Khyber Medical University. Admission shall be based on merit determined by KMU admission policy**.**
- Reserved seats may be allocated according to government and KMU policies**.**

EXAMINATION REGULATIONS

STANDARDIZED FORMAT OF SCHEME OF PHARM-D PROGRAM

Nomenclature of degree	Minimum Duration	Credit hours (Minimum)
Doctor of Pharmacy (Pharm-D)	5 Years/10 semesters	195 (210 with specialization)

- In each semester student is required to appear in quizzes, sessional test(s) / midterm examination, final examination, give presentations, participate in group discussions and submit projects / assignments / lab reports by the due dates. These weightages are determined based on the following criteria:

Course (Theory)		**Course (Practical)**	
Nature of Examination	**Weightage**	**Nature of Examination**	**Weightage**
Quizzes/Assignments/Presentations	10 %	External Viva Voce	50 %
Mid-Term Exam	20 %	Lab Exam (Written)	30 %
Final-Term Exam	70 %	Journal + Table viva (OSPE)	20 %
Total Marks	100		100

Minimum passing marks: **50% in each subject as per PCP guidelines.**

- The distribution of Sessional Marks (Quizzes / Assignments / Presentations / Projects and Mid Semester exam) for B.Sc Engineering will be as under:

  a) Assignments per subject (4 total) 10 marks
  b) Quizzes (4 total) 10 marks
  c) One Presentations per subject 5 marks
  d) Mid semester exam 30 marks

- In case a student joins a course after it has started, he/she will be responsible for any missed quizzes, assignments and lectures. The marks in missed quizzes, tests, assignments and labs etc. will be zero.
- In case a student misses mid semester exam, his/her marks in mid semester exam will be zero.
- If a student fails to appear in the final examination of a course(s) due to any reason, he/she will be treated as absent and failed in that course(s).
- Students passing in all the papers (theory and Lab to be treated as separate papers) shall be declared to have passed the examination.
- Students failing in all / some papers shall be declared to have failed in that examination.
- There will be no supplementary / special exam in semester system; if a student fails any

course he/she will have to repeat that course.

- In case of any litigation pending, involving the student and university in respect of any dispute regarding eligibility to appear in any examination or affecting the student(s)' performance in the examination, the university shall have a right to postpone the result of such examination in respect of the student concerned and would declare such result only upon the final settlement of the dispute if other rules and regulations allow such settlement.
- In case, a student is allowed to attend classes or sit in any examination provisionally / as an interim measure by the order of any judicial or other authority, including a court of law, university shall have the right to postpone the declaration of his / her result pending final determination of the dispute where for the proceedings were initiated and such provisional / interim steps were ordered. In case the determination is to the effect that the student was not eligible to take such examination, the university shall have the further right to cancel the examination(s)/paper(s) provisionally taken under the interim order(s).

CLERKSHIP/HOSPITAL TRAINING

Every student is required to do his/her clerkship/hospital training/internship as per requirements of Pakistan Pharmacy Council, which is mentioned in the course curriculum of Pharm D Program.

DEGREE AWARD REQUIREMENTS

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

- 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.
- Minimum of 195 credit hours are required for the award of Pharm-D degree, in case no specializations is opted by student.
- Minimum of 210 credit hours are required for the award of Pharm-D degree with specialization in particular domain.
- Capstone / research project of three (03) credit hours must be completed.
- Internship/Field experience of three (03) credit hours must be completed. This requirement cannot be substituted with additional coursework, capstone, research or project work.
- CGPA must not be below 2.00/4.00 at the time of completion of the degree program.
- 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.

MEDIUM OF INSTRUCTION

The medium of instruction and examination shall be English except Islamiyat and Pakistan Studies where option of English, Urdu and Arabic is given. Courses of studies are subject to

changes and modifications by Pakistan Pharmacy Council and Higher Education Commission of Pakistan.

ATTENDANCE

- A student must have attended at least 75% of the classes held in a course in order to be allowed to sit in the final examination.
- Student having class attendance less than 75% in a particular course will be required to repeat the course when offered again.
- There shall be no makeup classes in order to make up the shortage of attendance of any particular student.

PROBATION AND RELEGATION

- Probation is a status granted to the student whose academic performance falls below the following minimum standard:

  - ✓ Student acquiring less than 2.00/4.00 GPA in a semester
  - ✓ Student having 5 F grades in a semester

- Students placed on probation in two consecutive semesters even after attending the summer for one academic year will be considered as relegated. S/he will be considered as external student till s/he improves his/her GPA and comes out of two consecutive probations.
- After improving the GPA and becoming eligible for next semester, s/he will be allowed re-admission as a regular student.
- Warning letters must be issued by the Director for the students on probation with a copy to the parents/guardians.

REPETITION OF COURSES/IMPROVEMNET OF CGPA

- If a student gets 'F' grade, s/he will be required to repeat the course.
- Students may be allowed to repeat a course in which s/he has obtained grade below "C".
- Maximum attempts allowed: **three attempts**

GRADING POLICY

- Grade Point Average (GPA) system will be adopted for the evaluation of students in all subjects based on the absolute grading system.
- A student securing less than 50% aggregate marks in a subject will be awarded grade "F".
- The following grades will be applicable for Pharm-D program:

Grade	Grade Point	Percentage Obtained in Semester System
A	3.67 - 4.00	85 and Above
A-	3.34 – 3.66	80-84

B+	3.01- 3.33	75-79
B	2.67- 3.00	71-74
B-	2.34-2.66	68-70
C+	2.01-2.33	64-67
C	1.67-2.00	61-63
C-	1.31-1.66	58-60
D+	1.01-1.30	54-57
D	0.10-1.10	50-53
F	0.10-1.10	Below 50

- Grade point average (GPA) shall be calculated and rounded up to two decimal places. In case of close competition between / amongst students for merit position, the third fraction will be calculated.

FALL/SPRING/SUMMER SEMESTER

- There will be two regular semesters (Fall and Spring) every year. Each semester will be spread over 16 – 18 weeks (inclusive of exams).
- There will be one Summer Session spread over 8 weeks (inclusive of exams) to provide opportunity to students who have failed or have withdrawn from a course and those who wish to improve their G.P.A to qualify to the next semester. A student can take up to 9 credit hours during summer semester.
- To offer a course in Summer Semester, the minimum number of students should be 5 or above.
- Students will only be allowed to take repeat courses in regular semester if they are in Final year of their degree Program or those who are:
    a) Relegated Students
    b) Migrated Students

STUDENT FACILTIES

The Institute of pharmaceutical sciences (IPS) has peaceful and ventilated class rooms and library. IPS has fully equipped Pharm-D and M.Phil, and PhD laboratories. IPS will help in Internships and placements arranged at national and multinational Pharmaceutical Industries and hospitals. The IPS is memorandum of understanding (MoU) with tertiary care hospitals like Hayatabad Medical Complex, Lady Reading Hospital, Khyber Teaching Hospital, Northwest General Hospital and research hospitals, Rehman Medical Institute and Peshawar General Hospital.

STUDENT INFORMATION CENTRE

A one stop shop, as we like to call it here at KMU, the Office of Student Affairs-IPS makes sure that from day one students are provided with all the information they need at one place. At the time of admission whether it relates to inquiring about the course structure and other relevant details or whether it relates to credit transfer, all the matters are dealt from this one desk.

STUDENT COUNSELING

The university offers help to students who are struggling or need career advice. If you find that for any reason you meet problems and difficulties during your time at the University, our counselors are available throughout for guidance and support.

ACCOMMODATION

New hostel is being built which is almost complete and will be functional soon on campus. Resident students will be provided with furnished accommodation comprising cubicles and dorms. The hostel will be provided with Wi-Fi, mess and common room.

PLACEMENT

The University is in regular contact with a large number of national and international employers, and professional associations to provide students with all available information on vacancies, recruitment processes, training courses, internships and occupational information.

CAFETERIAS

The University has well maintained cafeterias where students can enjoy a variety of refreshments at very affordable prices. These cafeterias provide students opportunities to meet during breaks to exchange ideas and thoughts.

FINANCIAL ASSISTANCE

Khyber Medical University aspires to provide as many talented students a chance to get access to quality higher education as possible. With the help of generous merit and need-based scholarships and the support of different organizations and philanthropists KMU has been able to support hundreds of students making education at KMU achievable for bright students from all backgrounds.

Wi-Fi and IT support

Wi-Fi support through HEC smart university to the university has 80MPS broadband connection to all areas of the campus. KMU offers both faculty and students official email addresses, so as to make it easy to communicate with colleagues nationally and internationally with increase authenticity. In the IT lab students can work on their research and there is also a Prime Minister Laptop scheme for students to keep abreast of the digital age.

LIBRARY

University campus comprises of well-maintained and spacious library equipped with comfortable chairs and environment. Latest edition books in basic sciences both local and international, to facilitate both students and faculty in their course works are available. Local and international journals are made available in the library.



INFRASTRUCTURE

Purpose built and renovated academic block in main campus of the university with well-furnished departments, spacious, air-conditioned class rooms, demonstration rooms and laboratories equipped with multimedia projectors and audio-video equipment's. The university has a well-equipped and furnished multipurpose hall with multi demonstration rooms, where all the national and international conferences, seminars and workshops take place. Administration, faculty, students and guests have separate cars parking with shades which are vigilantly watched by the veteran security personals.

Class Rooms

IPS has 10 class rooms for Pharm-D Students located at the 2nd and 3rd floor of IPS block.

Classrooms



Examination Hall & Cafeteria



Exam Hall



Cafeteria

Laboratories



Pharmacognosy



Pharmacology



Pharmaceutical Chemistry Lab



Industrial Lab



Analytical Lab



Animal House



Behavior Studies Room



Surgical Room

Learning Resource Center



Central Library



Departmental Library



Computer Lab

STUDENTS SOCIETIES

Student societies at KMU aim to make sure that their time at University is well-spent. Run by students themselves, the societies do their best to keep them informed of important issues, as well as organizing events and activities for all students. Students can get involved by attending or even by organizing the type of activities they would like to see at the campus. There are also various opportunities for students to help others either through charity events or through voluntary schemes.

Approved Clubs at IPS, KMU	
1	Events Club (Arts clubs, Photography, Cooking, Media)
2	Literary & Debates Club (Dramatics)
3	Adventure Club
4	Sports & Fitness Club
5	Religion for Healthy Soul
6	Social Welfare society (First aid, Biosafety, community support Club, Blood donations)
7	Clean and Green Pakistan
8	Science & IT Club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Khyber Medical University
GREEN YOUTH MOVEMENT CLUB
IMSCIENCES PESHAWAR
Plantation Drive