

# Prospectus 2025-26



## KHYBER MEDICAL UNIVERSITY

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## COAT OF ARMS

The Quran Verse is Prayer “**O’ God bless me with Wisdom**”

➤ KMU is abbreviation of Khyber Medical University

➤ The staff and snake are the symbols of the medical profession.



*The staff (stick, support) and the snakes intertwined around it, is called “Caduceus”, symbolizing medicines. It originated from the Greek god of healing, Asclepius who is represented with a snake; snake is an ancient symbol of physical & spiritual healing.* Khyber Medical University reserves the right to make any amendments in policy, regulations or other affairs related to these programs.

# *Prospectus*

**2025-26**

# INTRODUCTION

## MESSAGE FROM THE VICE CHANCELLOR, KHYBER MEDICAL UNIVERSITY

*It is with a sense of solemn responsibility that I address you at the dawn of a new era in the academic history of Khyber Medical University. We witnessed substantial horizontal growth initiated by the valorous efforts and inclusive vision of the pioneers of this beacon of knowledge in the region. Within a short span of 18 years since inception 2007 to 2025, twenty constituent and 263 affiliated institutes were added to the university, and a faculty of 424 eminent scholars was enlisted, including 67 doctors of philosophy, an unprecedented achievement and a matter of pride for any institution. The keen reception of various programs and courses offered by the university among scholars from a wide range of health disciplines is an ever-strengthening evidence of the verity of that vision. Appreciating our pioneers' accomplishments, let us now initiate the much-needed paradigm*



*shift in the academic stance of the institution; let us take education from being to becoming. We need to bring our structures, processes and outcomes at par with the best international institutions, with the aim of empowering our scholars to actualize their potentials, bringing them to their rightful place in the forefront of scientific discovery and innovation as per Global demands. To that end, we shall work with a commitment to teamwork and seamless integration, aiming at peerless eminence in not only acquiring but generating knowledge. Our education must impart scholastic depths and lifelong commitment to learning and objective exploration of reality with insights into the systems perspective to our scholars. That, in the long run, will lead to substantive research/development.*

*Ongoing, locally owned and managed audits, incorporating adjustment for random variation, will be an integral part of all entities and all processes. Without such objective assessment, management reduces to a blindfolded drive. Accompanying this address, I present a 120-day plan regarding initiatives of immediate priority. The key target areas are institutional expansion, process and service enhancement, and effective redress systems for general and ethical concerns, ensuring confidentiality. Task forces composed of employees with experience in the relevant areas are to be formed for pragmatic planning and implementation with documented audit trails in all three domains. Periodic review reports will be generated and a central coordination council will be put in place for oversight, support, review and follow up of all initiatives in the best interest of institution/public. Fully cognizant of the burden of responsibility I am committing to; let us reach for strength in our history where small teams of committed individuals sharing a vision and a higher purpose achieved success still resounding through the echelons of history. For my colleagues, faculty members, employees from all departments and units, and our scholars, I reiterate our mission of becoming and staying a role model of research-driven, practice-informed, diverse, inclusive and equitable institution of academic excellence with the highest standards of ethical behavior at all levels, living up to our values of integrity, inclusiveness, diversity, innovation, equity, and rigorous science/economic well-being and prosperity.*

*Let us join in a prayer for the strength and wisdom to actualize the vision we are setting for ourselves and to serve the nation.*

Professor Dr. Zia Ul Haq  
Vice Chancellor

## MESSAGE FROM THE REGISTRAR, KHYBER MEDICAL UNIVERSITY

*Khyber Medical University was established on 13<sup>th</sup> January, 2007 to provide an ideal environment for the transfer of knowledge, research and innovation to strengthen the health care delivery system benefiting all citizens of Khyber Pakhtunkhwa.*

*The University has progressed immensely during the decade since its establishment. However, its evolution to the present stature is a saga of hard work, commitment, dedication and integrity. During this period KMU succeeded in developing a culture and environment that invited new students and staff giving them the opportunity to polish and support their talent, creativity and obligations to become visionary leaders across all the relevant fields.*

*With its twenty constituent institutes including a medical and dental college with 263 affiliated institutes the University is producing highly qualified health human resource through a variety of programs at the undergraduate and postgraduate level.*

*We have the largest number of highly qualified PhD faculty in Basic Medical Sciences and are the pioneers to start PhD Programs in Public Health and Ph.D. in Health Professions Education is in pipeline. It is further to mention that KMU is catering the demands of both public as well as private sector by delivering medical doctors, dental surgeons, Physical Therapists, Nurses, Technologists in paramedical sciences, Public Health Professionals, Educationists in health professions and PhDs in Basic Medical Sciences and Public Health.*

*In order to provide leadership in prevention and control of non-communicable and communicable diseases, Khyber Medical University has embarked upon establishing Research Institute of Diabetes & Endocrinology and Non Communicable Disease (RIDEQNCD) and Research Institute of Hepatology & Hepato-Biliary Pancreatic- surgery and transplant (RIHEHPT) under one roof in the university campus sponsored by HEC and federal government as an highly sophisticated resource for the scholars and researchers. This facility shall offer state of art services for liver transplant with the possibility of pancreatic transplant as a cure for diabetes in the future.*

*Moreover, the tremendous efforts and laborious spadework over the past year has yielded fruit as KMU achieved another milestone by collaborating with World Health Organization, NIH Islamabad and Department of Health KPK to establish a state of the art Public Health Reference Lab (PHRL). It is worth mentioning that the establishment of PHRL at a Khyber Medical University is a unique experiment of its kind in the whole region. It will be the first and only provincial PHRL after the NIH and is a moment of pride for the University for being entrusted with this profound responsibility to advise the Department of Health KP on health related matters especially diagnosis and prevention of diseases, investigation of epidemics and to act as reference center for the diagnosis and surveillance of disease especially the infectious disease.*

*With these remarks I congratulate the students joining KMU and wish them an enlightened future ahead.*



## MESSAGE FROM THE DEAN, BASIC MEDICAL SCIENCES

*It is a pleasure to introduce the Institute of Pathology and Diagnostic Medicine (IPDM), a key constituent of the Faculty of Basic Medical Sciences at Khyber Medical University. The Faculty comprises three institutes—IBMS, IPDM, and IPS—working collectively to advance education, research, and diagnostic services through a strong academic and professional workforce.*

*The Faculty of Basic Medical Sciences offers a broad portfolio of academic programs at undergraduate and postgraduate levels, with a substantial and growing community of students and graduates across MPhil and PhD disciplines. These achievements reflect a sustained commitment to academic rigor, structured training, and research productivity.*

*Within this framework, IPDM plays a central role in postgraduate training, clinical diagnostics, and applied research, with a clear emphasis on linking laboratory medicine to clinical practice and public health needs. Our mission is to strengthen research capacity, deliver reliable and high-quality diagnostic services, and support innovation that improves patient care and health system performance.*

*The continued growth of IPDM and the Faculty as a whole is driven by collaboration, accountability, and a shared commitment to excellence in medical sciences. I look forward to the institute's ongoing contributions to education, diagnostics, and research that directly benefit human health.*





### **Faculty of Institute of Pathology and Diagnostic Medicine**

#### **INTRODUCTION**

The institute of Pathology and Diagnostic Medicine is a constituent part of KMU that specializes in cutting edge basic/clinical sciences and translational research. In addition to fixing focus on faculty development, research and technology and bringing it at par with international standards, the areas of interest /concern of IPDM would remain the following:-

1. To focus on further development of faculty members of all medical institutes in their respective capacities by offering M.Phil/ PhD Programs.
2. Provision and expansion of the research activities in organized form.
3. Institutionalizing research in all affiliated medical and health institutions.
4. Provision of quality diagnostic services at competitive rates to the community.
5. BS programme , particularly in Microbiology has been started for producing graduates who are well equipped with theoretical and practical application of their knowledge

## MESSAGE FROM THE DIRECTOR

*The Institute of Pathology & Diagnostic Medicine (IPDM) is a constituent institute of Khyber Medical University, established to strengthen postgraduate training, clinical diagnostics, and applied research in pathology and laboratory medicine.*

*IPDM delivers structured MPhil, PhD, and certificate programs in core pathology disciplines, fully aligned with KMU, HEC, and regulatory requirements. Our focus is on producing competent specialists with strong grounding in laboratory practice, quality systems, biosafety, and research ethics.*

*The institute supports clinical diagnostic laboratories serving KMU teaching hospitals, providing hands-on training to postgraduate scholars while contributing directly to patient care. IPDM also plays a key role in public health surveillance through the Khyber Pakhtunkhwa Public Health Reference Laboratory, supporting outbreak investigation, disease monitoring, and reference testing.*

*In parallel, IPDM promotes research translation and commercialization, particularly in molecular diagnostics and laboratory-developed tests, to support health system needs and national self-reliance.*

*IPDM remains committed to high-quality education, reliable diagnostics, and impactful research for the benefit of patients, the health system, and society.*



## **Vision**

IPDM will be the major hub of international quality academic and research activities in the field of basic medical sciences.

The goal is to extend the frontiers of knowledge through relevant interdisciplinary Research; fostering an intellectual culture that bridges basic science and clinical practice; contributing to the enhancement of human health.

## **Mission**

To develop the academic faculty, flourish research and technology to international standards to benefit medical institutions and industry which ultimately will help in the economic growth of the nation.

## **Objectives**

1. To expedite the academic growth and development in undergraduate medical education by providing properly qualified and trained basic sciences teachers.
2. To institutionalize research by producing more PhDs, particularly in the emerging fields of basic medical sciences like immunology and molecular biology.
3. To develop linkages with leading institutions nationally and internationally for collaboration and exposure of local research scholars.
4. To keep academicians updated via short refresher to disseminate latest academic and research advancement in the field of basic medical sciences.
5. To focus on regional medical issues and improve health standards of the local community via research.
6. To produce highly trained and qualified manpower to improve the quality of services delivered to the community.
7. To provide efficient, hi-tech and high quality diagnostic services at competitive rates directly or through a network of referral / collection facilities.

## **Core values**

- Perform integrated interdisciplinary teaching and research with the highest level of ethics and professionalism, to meet the needs of stakeholders; and be responsive to changing global trends.
- Promote and defend the freedom of thought, academic inquiry, expression and association.
- Demonstrate sensitivity to student welfare and staff needs, and to practice environmental stewardship to the highest standards.

## **Core Activities**

- The institute instructs in the Bio-medical sciences related to Basic Medical Sciences.
- The institute trains postgraduate scholars in basic medical sciences in the degree programs leading to Masters of Philosophy (MPhil) in basic medical sciences, and Doctor of Philosophy (PhD) in basic medical sciences.
- In addition, the institute also invests in preparing active future basic medical science researchers and teachers.
- It engages its students in activities ranging from optimization of laboratory protocols and animal handling to poster & oral presentations and critical reviews.
- The institute arranges research days and conferences throughout the year, in which the new inductees are given an opportunity to develop an orientation regarding the core activities
- And structure of the department while the current students present their posters and critical reviews and receive feedback from the faculty members of different departments.
- Furthermore, students assessed for their understanding and application of subject specific knowledge through both formative and summative assessments.

## **Career Opportunities**

1. IPDM provides a promising career opportunity in the field of Pathology and Diagnostic Medicines.
2. Most of such skilled professionals will join teaching and research careers as faculty in Pathology, Hematology, Microbiology, Oral Pathology at national/international level.
3. Excellent opportunities for laboratory based careers in medical marketing and research for graduates who wish to join the pharmaceutical industry.
4. Equally excellent opportunities for those joining industry, employed in R & D, Sales & marketing areas.
5. Better career in medical and dental institutions.

## **Registration in the University**

- i. A scholar for MPhil/PhD degree program shall be registered in teaching department / institution of the University.
- ii. Registrar of the university shall maintain a register of MPhil/PhD research scholars and assign a registration number to each scholar at the time of provisional admission.
- iii. A "notification of registration" for each candidate approved /allowed for admission to MPhil/PhD program shall be issued by the University.
- iv. Registration may be renewed on payment of the prescribed fee according to the rules and regulations of the university
- v. A person registered for the PhD degree program shall be called **PhD research scholar**.
- vi. Each student so selected shall be required to register and pay the dues according to university admission policy, failing which the admission of the selected candidate shall be deemed as cancelled. The tuition fee and other dues shall be determined by the university from time to time.

## **Attendance**

The policy for minimum attendance (>75 %) in a course is mandatory to complete the requirements of a course. The instructor shall report a student's absences and the student shall be placed on attendance probation by his/her dean/HOD and it will be notified by the department. A student shall be dropped from the University for violating the terms of such probation.

## **Cancellation of Enrolment**

If a student fails to attend any lecture during the first four weeks after the commencement of the semester as per announced schedule, his/her admission shall stand cancelled automatically without any notification. If a scholar does not fulfil the requirements as prescribed, his registration shall stand cancelled according to University Policy.

### Fee Structure for M.Phil and Ph.D Basic Sciences Programs:

S #	Title	Semesters					
		M.Phil/PhD(4 Semester)				PhD(6 Semester)	
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>
1	Admission Fee	5,000	0	0	0	0	0
2	Registration Fee	3,800	3,800	3,800	3,800	3,800	3,800
4	Semester Tuition fee	79400	79400	79400	79400	79400	79400
5	Examination Fee	2,600	2,600	2,600	2,600	2,600	2,600
6	Transport Fee	1000	1000	1000	10001	1000	1000
	Student welfare fund	500	500	500	500	500	500
6	Lab. Fee	7500	11,700	11,700	12,200	11,700	11,700
7	Sports Fee	500	500	500	0	500	500
9	Library Fee	500	500	500	500	500	500
10	KMU Registration Fee	1800					
11	Regulagory Body / PM&DC Registration Fee	1000					
	<b>Grand Total</b>	103000	100000	100000	100000	100000	100000

1. Thesis charges M.Phil Rs.50000/- & PhD Rs. 140,000/-at the time of submission of thesis (if any).
2. Degree Fee shall be deposit at time of getting Degree of M.Phil/PhD Rs. 5100/- one time
3. Transcript Fee shall be deposit at time of getting Degree of M.Phil/PhD Rs. 2200/- one time
4. Degree/transcript verification fee shall be deposit if want to verify degree or transcript Rs. 880/- one time
5. They shall deposit 50% of semester tuition fee for subsequent extra semester fee in case of students fail to submit thesis in stipulated time period after i.e. (2 years in M.Phil & 3 years in PhD)
6. They shall deposit 30% of semester tuition fee for one time as fine with 50% regular extra semester fee in case of students fail to submit thesis in stipulated time period i.e. after (3 years in M.Phil & 5 years in PhD)
7. Late fee fine policy imposed on deposition in after due date as Rs. 1000/- in case 16-30 days late Rs. 2000/- in case 31-60 days late and Rs. 3000/- in case 61 to onward till the end of semester late.
8. Self sponsored foreign student shall pay US\$ \_\_\_\_\_/- in addition to normal fee each year.
9. University Employee will be given 50% concession in Admission and Tuition fees only.
10. University employee's children will be given 75% concession in Admission and Tuition fees only.

### Facilities

IPDM is providing excellent educational resources, services and facilities to fulfill the teaching, learning and research needs of its faculty members, students and staff. The institute is run by well trained, international qualified, professional PhD faculty members.

### 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 equipments. 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 personnels.

## 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.

## 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.

KMU has created a perfect learning environment via virtual **MOODLE** online software through which the facilitators connect with the scholars. All the lectures and presentations are uploaded on the system which is easily accessible to students through their specific log-in area. Students can submit their assignments on time from anywhere and can access study reference material using this facility.

## 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. The library has a computer lab, with access to university broadband which instantly helps the students browse for contents online.

The university has provides free access to **Medline database** to facilitate scholars in research. Medline contains journal citations, full text and abstracts for biomedical literature from around the world.

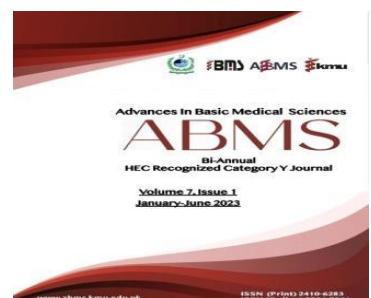
## Research Furth

Khyber medical university has signed MOUs with many local and international universities to collaborate in the field of biological sciences that includes University of Glasgow, University of Dundee, and University of Geneva etc.

PhD scholars of KMU, IPDM with support from HEC, are also sent on 6 months programs to many international Universities in USA, Europe, UK, etc where they learn and apply different new clinical and diagnostic laboratory techniques.

## Journal

Advances in Basic Medical Sciences (ABMS), is published by the Institute of Basic Medical Sciences. It is a bi- yearly journal with focus on Basic Medical Sciences is recognized by the Higher Education Commission (HEC) in category Y. ABMS is managed by Dr Hamid Habib, Associate Professor IBMS Khyber Medical University Peshawar (Managing editor).



## **Sports Facilities**

Besides academics, sports are one of the most important co-curricular activities. Sports attribute to the academic performance and character building of the students. It is said, "A healthy body is a promise of healthy mind", and combination of both can do wonders for students. Thus the institute has provides sports facilities to the indoor as well as outdoor games. Annual Sports Gala is also arranged annually by the Directorate of Sports for active participation of students from all the affiliated institutes led by Mr. Nasir Saleem.



## **Laboratories**

Each department in IPDM has a well-equipped laboratory with cutting edge instruments. Students with the help of capable technicians and faculty members perform all their research work in these laboratories. Freezers from -80,-40,-20 are available for long term storage of research samples as well as incubators shaking, refrigerated, CO<sub>2</sub> etc. The university also has approved a reference lab (PHRL) which is deemed to be the first of its kind in whole KP with the help of WHO, NIH and KP health department.



## **Metabolic Room**

IBMS has established a functional metabolic/clinical trial room (CTR) for nutritional studies which is the first trial room in KP, Pakistan. The CTR is established and maintained by Dr Sadia Fatima, Associate Professor, IBMS. The purpose is to design a clinical environment for improving the quality and efficiency of the clinical trials and to introduce tools necessary for the evidence based and innovative studies. PhD and M Phil Scholars and their facilitators perform the clinical trials here in the presence of the trained staff. Currently 9 trials are in progress in CTR. The participants include children and pregnant women. Currently trials on novel device recently introduced by the John Hopkins Public Health Institute, US for quantitative assessment of papillary threshold as alternative method for Vitamin A were also carried out in the CTR.



## **Oral Pathology Lab**

Oral pathology laboratory procedures are carried out at Khyber Medical University (KMU) in accordance with standard biosafety and quality assurance protocols. The procedures include specimen receiving, grossing, fixation, tissue processing, embedding, microtomy, routine hematoxylin and eosin staining and immunohistochemistry. Special stains and different slide evaluation techniques are also performed. All microscopy is carried out under expert surveillance to ensure accuracy and diagnostic reliability.

The Oral Pathology laboratory at Institute of Pathology and Diagnostic Medicine is a national pioneer center for preparing tissue microarrays as a practical, sustainable and meticulous process. Not only Diagnostic reporting is done but also research projects based on oral histopathology and cytopathology are carried out in this well equipped laboratory.



## Haematology Lab

The Hematology Laboratory (Hema Lab) at the Institute of Pathology and Diagnostic Medicine (IPDM), Khyber Medical University (KMU), Peshawar, stands as a cornerstone of advanced diagnostic services, postgraduate education, and research in hematological sciences. The lab supports comprehensive blood disorder diagnostics, including routine hematology, bone marrow evaluations, and specialized testing for anemias, leukemias, and other hematologic conditions. Under the leadership of expert faculty, it plays a vital role in training MPhil and PhD students in Hematology, conducting high-quality research, and contributing to public health initiatives such as blood donation camps and hemoglobin screening. Hematology lab is well equipped and functional for the use of student's projects. Instruments haematology analyzer (SYSMEX) has made it easier for the students to easily perform hematological test in this lab under the guidance of well trained staff.



## Microbiology Research Lab & Microbiology diagnostic lab

The Microbiology Research Laboratory at the Institute of Pathology and Diagnostic Medicine (IPDM), Khyber Medical University (KMU), Peshawar, is a dynamic hub for cutting-edge research, postgraduate training, and diagnostic excellence in medical microbiology. Equipped with advanced facilities for bacteriology, molecular diagnostics, antimicrobial resistance studies, and pathogen identification, the lab supports MPhil and PhD programs in Microbiology, enabling scholars to conduct high-impact research on infectious diseases, emerging pathogens, and public health challenges prevalent in Khyber Pakhtunkhwa. Faculty and students actively contribute to innovative projects, including molecular analysis of multidrug-resistant organisms and collaborative efforts with clinical settings, while upholding rigorous standards in education, accurate diagnostics, and community-oriented research. Dedicated to advancing microbiological sciences, the Microbiology Research Lab at IPDM-KMU plays a pivotal role in strengthening healthcare research and response capabilities in the region and beyond.



Microbiology lab has state of the art equipment and with the introduction of the Biosafety cabinet has made it easy for researchers to test limits of pathogens in a very controlled and safe environment. The lab is also equipped with MGIT, BACTAC and other cutting edge instruments.

## Histopathology Lab

The Histopathology Laboratory (Histo Lab) at the Institute of Pathology and Diagnostic Medicine (IPDM), Khyber Medical University (KMU), Peshawar, serves as a vital hub for advanced tissue diagnostics, postgraduate training, and research in histopathology. Equipped with modern facilities for tissue processing, embedding, sectioning, staining (including H&E and special stains), and microscopic analysis, the lab handles surgical biopsies, FNAC, and complex cases to provide accurate diagnoses of tumors, inflammatory conditions, and other diseases. Offering MPhil and PhD programs in Histopathology, it



trains the next generation of pathologists under expert faculty while supporting high-quality research and contributing to public health through precise diagnostic services. Committed to excellence in medical education, innovation, and patient care, the Histo Lab at IPDM-KMU upholds the highest standards in histopathology across Khyber Pakhtunkhwa and beyond.

### **Molecular biology Lab**

Molecular biology and genetics is a newly introduced programme in IBMS, and currently holds new and up to date instruments. DNA quantifier, real time and conventional PCR and gel documentation system for research with a goal to start next generation sequencing soon.



### **Physiology Lab**

The physiology lab is one of the well-equipped labs at IBMS. It contains the latest instruments that have made the job of students easy. ELISA, Western blot, Flow cytometry are common processes involved during students projects. The lab also has ECG and ETT machines, data acquisition system for nerve conduction studies and an ultra sonogram machine.

### **Biochemistry lab**

Biochemistry lab is run under the guidance of very skilled and trained faculty and staff member. The newly installed High pressure Liquid Chromatography (HPLC) and COBAS C111 biochemistry analyzer has made it very easy for all the researcher/scholars to perform the entire biochemistry test.



### **Anatomy lab**

Anatomy lab is in its infancy but we now have avibrotome as well as stereotaxic frame and stereomicroscope for microscopic studies. In addition we have a teaching Skills lab where students are taught comprehensive details of the human gross and microscopic anatomy.

### **Cell Culture Lab**

The first lab in KPK that has developed cell lines of Brain tumour stem cells from KPK patients as well as immunofluorescence and now branching into other stem cell research.



### **Pharmacology lab**

Presence of HPLC, Power lab and patch clamp, PCR, Gel documentation system, column chromatography has made this lab an important lab of IPS.

## **Animal House**

IBMS also has a centralized animal house with air-conditioned facility which is located in a separate building with separate rooms for keeping the animals and for performing experiments. The facility houses a number of different strains of mice and rats as well as rabbits as per student research projects. Students can access this facility for testing and running animal trials and for carrying out metabolic studies for their research projects. We have now added a surgical room with live animal experiment equipment like anesthesia machine and a fluovac system.

## **Khyber medical university Hospital Lab**

The KMU Hospital Laboratory (affiliated with Khyber Medical University and integrated with diagnostic services at IPDM, KMU) serves as a state-of-the-art clinical diagnostic facility, providing round-the-clock, high-quality laboratory services for patients, and the wider community in Khyber Pakhtunkhwa.



Equipped with advanced technology and adhering to quality standards (with progression toward ISO 15189 accreditation), the lab offers comprehensive pathology and diagnostic testing, including hematology, histopathology, microbiology, chemical pathology, and specialized investigations to support accurate disease diagnosis, patient management, and public health initiatives. As part of KMU's commitment to excellence in medical education and research, the laboratory plays a pivotal role in training postgraduate students from the Institute of Pathology and Diagnostic Medicine (IPDM), facilitating cutting-edge research, and delivering efficient, cost-effective, personalized services to enhance healthcare outcomes in the region.

## **Chemical Pathology Lab**

The Chemical Pathology Laboratory at the Institute of Pathological & Diagnostic Medicine (IPDM), Khyber Medical University (KMU), is a modern diagnostic and academic facility specializing in clinical biochemistry. The laboratory provides a comprehensive range of routine and specialized biochemical investigations in support of patient care, undergraduate and postgraduate teaching, and research activities. Equipped with advanced automated analyzers and managed by experienced faculty and skilled technical staff, the laboratory ensures accurate, reliable, and timely results while maintaining compliance with national and international quality standards.

## **Immunology and Serology**

The Immunology and Serology Laboratory of IPDM-KMU is a newly established, modern facility developed to support teaching, research, and training in immunological and serological sciences. It provides a controlled environment for practical learning and experimental work, including the study of immune responses, antigen–antibody interactions, serological testing, and basic immunodiagnostic techniques.

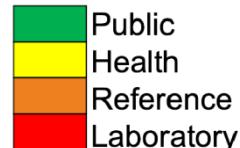
The laboratory aims to strengthen students' practical skills, promote research innovation, and support academic excellence in immunology, serology, and related biomedical disciplines.

## **Biobank**

The IPDM-KMU Biobank is a secure facility designed for the preservation of students' and research project samples at different sub-zero temperatures using dedicated deep freezers. Samples are stored at appropriate temperature levels, such as  $-20^{\circ}\text{C}$ ,  $-40^{\circ}\text{C}$ , and  $-80^{\circ}\text{C}$ , to ensure their quality, integrity, and long-term stability.

The biobank is supported by a comprehensive digital record system that maintains detailed information on each sample, including storage location, temperature conditions, and project data. This system ensures efficient sample retrieval, continuous monitoring, and strong data integrity, promoting excellence in academic and research activities.

### **Khyber Pakhtunkhwa (KP) Public Health Reference Laboratory (PHRL)**



The Khyber Pakhtunkhwa Public Health Reference Laboratory (KP-PHRL) is a joint initiative of Khyber Medical University, the Department of Health Khyber Pakhtunkhwa, and the National Institute of Health, established to strengthen laboratory-based disease surveillance and public health response in the province.

KP-PHRL serves as the provincial reference facility for diagnosis of notifiable diseases, outbreak detection and investigation, and promotion of safe laboratory practices. The laboratory operates on a 24/7 basis, with surge capacity to manage increased testing demands during epidemics and public health emergencies.

The facility is housed within the academic block and comprises fully functional laboratories including:

- Haematology
- Routine Clinical Chemistry
- Microbiology
- Special Pathogens (BSL-III)
- Molecular Biology
- Non-Communicable Diseases and Cytogenetics
- Water, Food, and Environmental Testing
- Viral Serology
- Mobile BSL-II laboratory

KP-PHRL is supported by 57 disaster ready staff, ensuring both service delivery and academic oversight.

Since its establishment, KP-PHRL has achieved several landmark milestones, including:

- Acting as a provincial hub for outbreak surveillance and emergency diagnostics, particularly during dengue, COVID-19, and other emerging infectious disease responses
- Strengthening molecular diagnostic capacity within the public sector
- Supporting evidence-based decision-making for provincial health authorities through reliable laboratory data

- Providing structured training and hands-on exposure to postgraduate students in advanced diagnostic and biosafety practices

In addition to delivering essential public health services, KP-PHRL offers access to well-characterized clinical and surveillance samples, enabling high-quality, trans-disciplinary research aligned with provincial and national health priorities. The laboratory thus represents a critical interface between public health service delivery, academic training, and applied research within Khyber Pakhtunkhwa.

#### **Advanced Centre for Genomic Technologies Khyber Medical University (KMU-ACGT)**

A specialized core facility of Khyber Medical University (KMU) and an active partner in Pakistan's Public Health Reference Laboratory (PHRL) network. ACGT brings DNA sequencing and genetic testing to your doorstep — with economy, innovation, reliability, and time-saving precision. From advanced molecular diagnostics to national surveillance of emerging pathogens, we lead the charge in applying genomic science for better health outcomes.

- Pathogen Genomic Surveillance
- Molecular Diagnostics and Genetic Testing
- Life Sciences DNA Research
- Trainings and workshops in applied genetics and molecular techniques



## IPDM Alumni

The KMU Institute of Pathology and Diagnostic Medicine (IPDM) Alumni Group serves as a vibrant network for graduates, former students, faculty, and professionals who have been part of this esteemed institute at Khyber Medical University, Peshawar. United by a shared commitment to excellence in pathology, diagnostic sciences, research, and public health initiatives, our alumni continue to contribute significantly to healthcare advancements, antimicrobial resistance awareness, community camps, and innovative diagnostics across Pakistan and beyond. This group fosters lifelong connections, mentorship opportunities, professional collaborations, knowledge-sharing events, and support for current students, while celebrating the legacy of IPDM's dedication to cutting-edge medical education and service to humanity. Join us to stay connected, give back, and build a stronger future in diagnostic medicine



### Vision

The vision of the KMU mentoring program is to help students become effective members of the medical science community and help them acquire skills not taught in the prescribed curriculum.

### Mission

To enable students to work together as part of a team by providing opportunities **to arrange various Curricular And Extra Curricular Activities** in areas of their interest so that they may develop as **Morally Upright and Disciplined individuals , that makes Upstanding citizens of Pakistan and effective contributors to the university.**

### Program Slogan

Building today's talent into tomorrow's leaders

### Objectives

- To provide the students with opportunities in both curricular and co-curricular areas which will help them in their personal growth and enhance their leadership skills
- It serves as the platform for coordinating the contact between the university and its alumni through maintaining data base on their whereabouts and periodically arranging their meetings and re-unions.
- To provide coordination for arranging seminars, guest speaker sessions, cultural and entertainment events.
- To act as the middle point for interaction of our university with the corporate sector and business world to coordinate various placement and internship activities for our students.

### Components of the Alumni

1. Advice/Counselling centre
2. Clubs and Societies
3. Mentoring
4. Student resources
5. Seminars/Conferences etc

**Faculty of Institute of Pathology and Diagnostic Medicine**

S #	NAME	QUALIFICATION	DESIGNATION
<b>DEPARTMENT OF HEMATOLOGY</b>			
1.	Dr. Yasar Yousafzai	MBBS, PGDip, PhD (UK), MHPE	Professor
2.	Dr Gulab Fatima Rani	MBBS, MPhil(Hematology )PhD(UK)	Assistant Professor
3.	Dr Kinza Ayaz	MBBS, MPhil, FCPS II (Hematology)	Assistant Professor
3.	Dr Ansa Kalsoom	MBBS, FCPS Hematology, CHPE, CHR	Assistant Professor
4.	Dr.Zahish Safiullah	MBBS, FCPS Hematology, CHPE	Assistant Professor
5.	Dr.Nayab Safiullah	MBBS, FCPS Hematology, CHPE	Assistant Professor
6.	Dr.Nida Khan	MBBS,MPhil (Hematology)	Lecturer
<b>DEPARTMENT OF HISTOPATHOLOGY</b>			
5.	Dr Asif Ali	MBBS,PGD, PhD Histopathology UK,Poss-Doc UK, MHPE	Professor
6.	Dr Walayat Shah	PhD	Associate Professor
7.	Dr Naveed Sharif	MBBS,Mphil HistopathologyPhD Histopathology, DRM , CHPE	Assistant Professor
8.	Dr. Hafiz Abdul Salam	MBBS, MPhil Histopathology PhD Scholar Histopathology ,MPHCHPE,CHR.DCP	Assistant Professor
9.	Dr.Sarah Javed	MBBS, FCPS Histopathology, CHPE	Assistant Professor
9.	Dr.Mahwish Nowshad	MBBS,MPhil Histopathology,CHPE, PhD Scholar Histopathology	Lecturer
<b>DEPARTMENT OF MICROBIOLOGY</b>			
10.	Dr. Ihsan Ullah	MBBS, PhD	Professor
11.	Dr. Taj Ali	MBBS, PhD	Professor
12.	Dr. Momin Khan	PhD	Associate Professor
13.	Dr Bushra Rehman	CHPE,Mphil,PhD, Fellowship	Assistant Professor
15	Dr Jamila Haider	BS (Gold Medal), PhD (Microbiology),CHPE	Assistant Professor
14.	Dr Matiullah	PhD	Lecturer

<b>DEPARTMENT OF ORAL PATHOLOGY</b>			
15.	Dr Benish Aleem	BDD, MPhil, CMT, FICD, PhD	Assistant Professor
17.	Dr Bibi Maryan	BDS, MPhil, FCPS	Assistant Professor
18.	Dr. Sumera	BDS, MPhil	Lecturer

### **Teaching and Learning Methods**

Students will experience a wide variety of teaching and learning methods from expert staff including tutorials, lectures, seminars, workshops, small group discussions, and problem based learning, and laboratory sessions. As such the students will develop a wide range of skills useful in a basic and applied environment. These skills will aid in teamwork, scientific exploration, and problem solving and identifying relevant laboratory protocols.

### **Assessment Methods**

Students will be assessed both formatively and summatively. Throughout the year formative assessment in the form of class tests, presentations and assignments along with the feedback will be carried out. Summative assessment will include the end of the course terminal exam featuring multiple-choice questions. The practical aspects will be assessed using viva and Objective structured Practical examination (OSPE).

a. Class quiz	to assess continuous learning process
b. Terminal Examination	to assess learning outcomes
c. Presentations	to assess communication skills
d. Assignments	to assess writing skills



### **Weighting of assessments Total marks=100**

Midterm exam	25%
Terminal examination	40%
Oral/practical examination	10%
Semester work (presentations)	05%
Other types of assessment (assignments/reviews/posters)	05+15%
Total	100%

## ACADEMIC PROGRAMS

### PhD (Doctor of Philosophy)

Haematology	Histopathology	Microbiology	Oral Pathology
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#### Mission

The goal of PhD Haematology/ Histopathology/ Microbiology/ Oral Pathology program is to develop doctoral-level subject educators capable of teaching basic medical discipline to medical and allied health professional students and who are capable of performing high quality biomedical research for the benefit of the nation.

#### Overview

This is a three year course that shall include both *taught courses* as well as *research rotations*.



In the **first semester** students shall complete the core courses required by the Haematology/ Histopathology/ Microbiology/ Oral Pathology program as well as completing research rotations whereby selecting a research supervisor and mentor. They shall complete a qualifying exam at the end.

In the **second semester** courses in Haematology/ Histopathology/ Microbiology/ Oral Pathology as well as assistance in teaching basic sciences to medical and allied health students.

In the **third to sixth semester** they shall complete doctoral research project, dissertation writing and defending their thesis.

The students shall have a rotation in at least two research labs together with being involved in teaching students as teaching assistants to gain research and teaching experience.

#### Outcomes

The Graduate of PhD in Haematology/ Histopathology/ Microbiology/ Oral Pathology will have the attributes of a Subject specialist, Scientific researcher, Educator, Effective communicator and Collaborator achieved by developing trained personnel,

- In research skills and methodology
- To conduct quality and credible research
- Educators capable of teaching medical anatomical discipline

## **Objectives**

The Graduate of PhD (Haematology, Histopathology, Microbiology, Oral Pathology) shall achieve,

### **Cognitive Domain**

- Knowledge at the frontier of the field of Haematology/ Histopathology/ Microbiology/ Oral Pathology including knowledge that constitute an original contribution
- Substantial knowledge of research principles and methods applicable to the field
- An understanding of theoretical knowledge and to reflect critically on the theory and practice of Haematology/ Histopathology/ Microbiology/ Oral Pathology
- Use of intellectual independence to think critically, evaluate existing ideas, undertake systematic investigation and reflect on theory and practice of Haematology/ Histopathology/ Microbiology/ Oral Pathology

### **Psychomotor Domain**

- Expert technical and creative skills applicable to the field of Haematology/ Histopathology/ Microbiology/ Oral Pathology
- Expert skills to search, design, analyze and communicate research that makes a significant and original contribution to knowledge and/or professional practice of Haematology/ Histopathology/ Microbiology/ Oral Pathology
- Communication skills to explain and critique theoretical propositions, methodologies and conclusions to communicate results to peer and the community
- Communication skills to present a complex investigation of original research for external examination against international standards

### **Affective Domain**

- Intellectual independence
- Initiative and creativity in new situations and/or for further Learning
- Full responsibility and accountability for personal outputs
- Plan and execute original research (Project management)
- Life-long learner to generate new knowledge, in the context of professional practice

### **PhD Program Details**

<b>COURSE TITLE</b>	PhD
<b>SPECIALITY</b>	Haematology/ Histopathology/ Microbiology/ Oral Pathology
<b>COURSE DURATION</b>	Minimum 3 years (including course work duration and Research Dissertation), Maximum 3-8 years (including course work duration) with approval of Director Research/Registrar/Controller of Examinations
<b>TYPE OF STUDY</b>	Full time
<b>STUDY SYSTEM</b>	Semesters system (Minimum of 16 weeks of teaching excluding examinations) <ul style="list-style-type: none"><li>• 2 Regular semesters for coursework (1 year)</li><li>• 4 semesters for research work</li></ul>

<b>TOTAL CREDIT HOURS</b>	18 (Credit Hours of Course Work + a PhD dissertation which must be evaluated by at least two PhD experts from technologically /academically advanced foreign countries in addition to local Committee members)
<b>DISTRIBUTION OF COURSES AND CREDIT HOURS</b>	<ul style="list-style-type: none"> <li>● 1<sup>st</sup> semester (09 Credit hours) <ul style="list-style-type: none"> <li>▪ 5 Compulsory courses (8 Credit hours)</li> <li>▪ Research rotations (minimum 2) (1 credit)</li> </ul> </li> <li>● 2<sup>nd</sup> semester (09 Credit hours) <ul style="list-style-type: none"> <li>▪ Specialty Courses (8 Credit Hours)</li> <li>▪ Teaching rotation (1 Credit)</li> </ul> </li> <li>● 3<sup>rd</sup>,4<sup>th</sup>,5<sup>th</sup>, 6<sup>th</sup> Semesters (6 credits)Research, Dissertation</li> </ul>
<b>Course Load per Semester for Regular Full-Time Students</b>	09 Credit Hours of Advanced Courses in the specific field and Research Methods
<b>TEACHING INSTITUTION</b> <b>DEGREE AWARDING INSTITUTION</b>	<p>Institute of Pathology and Diagnostic Medicine (IPDM)</p> <p>Khyber Medical University Peshawar</p>
<b>ADMISSION CRITERIA</b>	<b>Haematology, Histopathology, Microbiology and Oral Pathology:</b> M.Phil/M.S/FCPS and equivalent degree in relevant field with CGPA 3.0 (out of 4.0 in the Semester System) or First Division (in the Annual System)

### **PhD Advisory Committee (PAC) Advisors**

Students shall be assigned advisors on admission by the specific department. The PhD coordinator shall serve as advisor before selection of subject specific advisors. The advisor as part of the PhD advisory Committee and the student together will develop a flexible comprehensive plan of study that will be implemented in each semester. The advising file will be updated by the PhD advisory committee (PAC).each semester and will include copies of transcripts and GPA earned.

### **Program Duration**

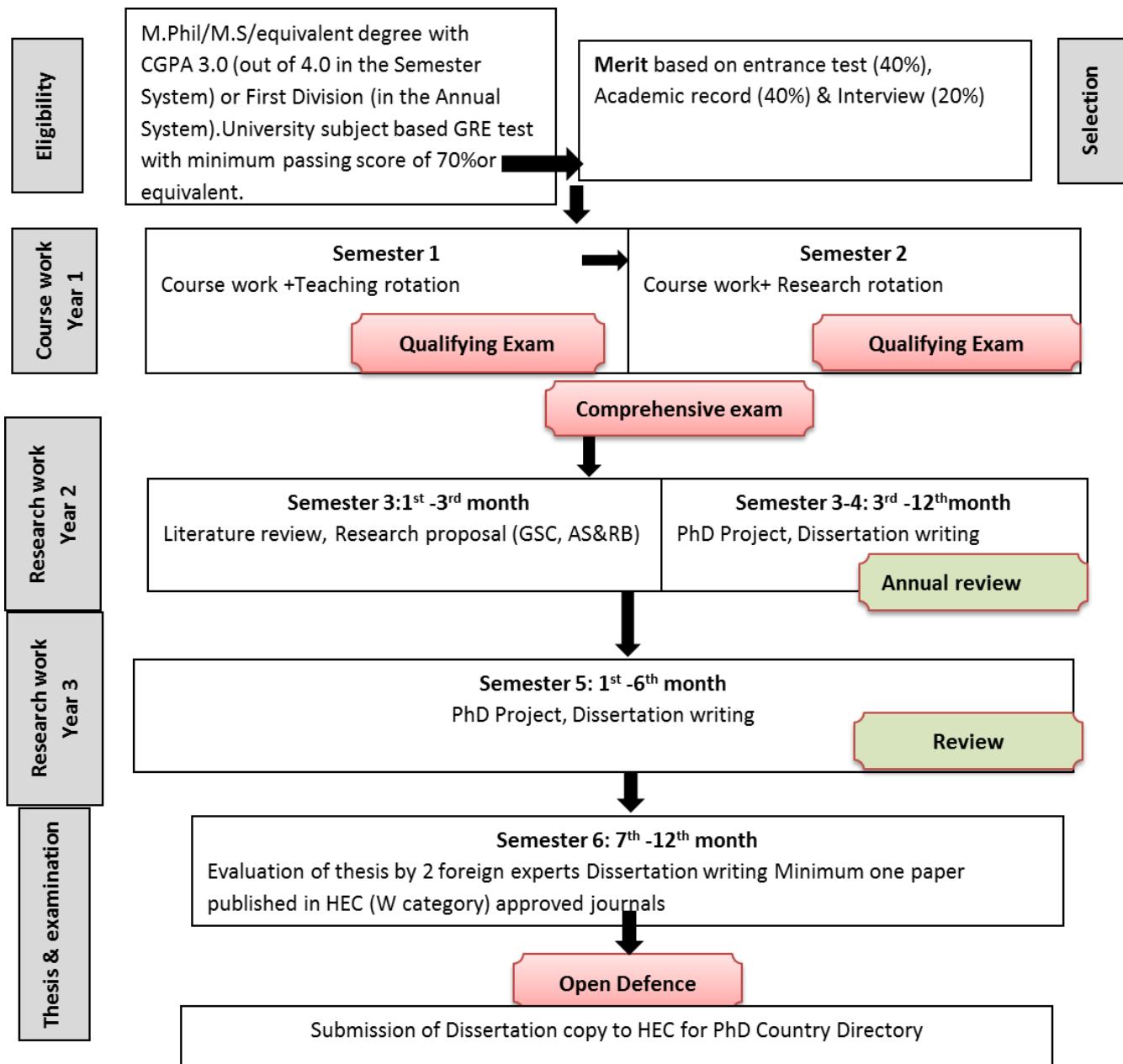
The research work and award of degree will be supervised by a HEC recognized PhD supervisor and co-supervisor from related areas of expertise. Upon admission to PhD program a supervisor will be allotted to the enrolled student who will guide the student in the selection of his/her area of research along with the development of research proposal and protocol. The supervisor and co-supervisor will also ensure that the student develop essential skills according to his area of research.

The requirements for PhD degree shall normally be completed within four years from the date of registration. The maximum time for the completion of PhD degree shall be six years from the date of registration in the PhD program. Only under exceptional circumstances, to be described in detail by the PhD candidate and supported by the supervisor, the PhD advisory committee may allow extension of up to one year beyond the maximum time limit of six years.

## DISTRIBUTION OF SEATS:

The number of seats in PhD (Basic Medical Sciences) program will be determined from time to time as per available seats and Supervisors.

## Program structure



## **Review Process**

### **Year 1**

The scholar shall clear End of semester qualifying exams to progress to next semester.

The final Comprehensive exam (maximum 2 attempts) will be conducted by the examination department of KMU at the end of semester 2.

After successfully clearing comprehensive exam, the student shall proceed to Year 2 of PhD.

### **Year 2**

#### **0-3 Months**

The student should submit a review of the literature for the potential project (1500 Words minimum, 2000 Words maximum) in the form of a scientific report.

The student should submit a PhD Proposal to his/her supervisor for initial review. The supervisor will then assess the project and identify training needs if required.

The student should now accommodate supervisor comments, re-check from supervisor and submit research proposal to Graduate Study Committee with one subject specialist from within or outside KMU. This should be followed by submission of "PhD Student Review Form" (Annexure 1), literature review and defense of research proposal in the annual review meeting of the Advanced Studies Review Board (ASRB), especially arranged for the PhD students.

#### **3-12 Months**

The student should be working on collecting data, optimize experiments, establish collaborations and develop experimental/research plan for successful completion of PhD project.

Note: At the start of year 2, the student could potentially start collecting data, optimize experiments, establish collaborations and develop experimental/research plan.

### **Year 3**

The review process of Year 2 and 3 include,

- Presentation to the institutional Graduate Study Committee on six monthly basis organized by the concerned PhD Coordinator followed by submission of "PhD Student review form",
- Scientific report\* and presentation in the PhD annual review committee".

The annual review process should be completed by students and supervisors by 31st January. Any student starting late will normally be permitted to delay submission of their annual report until 31st March.

Two reviewers (assigned by supervisor) will assess the progress of student at the end of year 2 and 3. The performance of PhD student will then be communicated by the reviewers to supervisor and director of the institute.

#### **\*Scientific report**

A scientific report preferably in the style of a journal article (6 to 10 pages maximum is recommended) summarizing progress made in the last year. It may therefore contain an abstract, introduction, materials and methods, results and discussion. In addition, there should be a 1500-2000 word section at the end of the report detailing the following year's work (Future plans). To be sent to supervisor for assessment and comment (half a page maximum) and subsequently submitted to the reviewers.

## **#Presentation in the PhD review committee**

All PhD students are required to deliver oral presentation by the end of year in the PhD review committee. This is followed by discussion with the committee members, including minimum of two subject experts. The committee will then take decision regarding the registration of student for the next session.

## **Thesis pending period**

Final year interview - Students within a year of the absolute thesis submission deadline will be interviewed specifically on their progress in the ASRB annual review meeting.

## **Qualifying Examinations and Defence**

### **End of Semester Exam**

Upon completion of the core curriculum, the student must prepare for and successfully pass the doctoral qualifying examination at the end of each semester (1 &2) to test their knowledge of subject, grasp of relevant literature, and the ability to form research hypotheses and experimental design. It shall be a written and oral exam.

### **Comprehensive Examination**

The qualifying exam is a written examination that will be designed to test the student's fundamental knowledge of human structure and function, critical analysis and thinking, and design of an independent research proposal.

An adhoc exam committee will be constituted by the Director of the Institute/PhD Co-ordinator and include three members of the graduate faculty, two of which shall be subject specialists. The Program Director shall chair the committee.

The committee shall request the faculty to submit questions on:

- 1) Material covered in any of the course work completed by the student to date,
- 2) Research papers or reviews that will be provided to the student, and/or
- 3) Philosophical matters related to the history of basic sciences and medicine or national or world events that impact medical education and biomedical research.

The committee will review the submitted questions and questions will be selected or created by the committee to ensure the questions are fair and appropriate, that they test the student's knowledge base for areas in the subject and that they help evaluate the problem solving skills of the student.

A student can avail a maximum of two attempts in the qualifying exam; failing which will result in the student being recommended to being dropped from the PhD program. In this case the Director of the Institute can elect to offer the failed student the option of completing a terminal Master's degree.

Once the student has passed the doctoral qualifying examination the student must register for Dissertation Research. A minimum of 06 credit hours is required for degree completion and typically occurs over 2 – 3 academic years. Initially, the student must identify a research project under the guidance of a faculty member and present to GSC and ASRB.

## **Advancement to Candidacy**

### **Intention to submit form**

It shall be the responsibility of the student to initiate their candidacy by submitting “An Intention to Submit form” (Annexure) to the PhD coordinator prior to the thesis submission date. This form initiates the identification and appointment of a committee of examiners for each thesis.

Once the completed candidacy form has been processed, the thesis committee chair will receive ballots for the oral defence of the thesis. The ballots are distributed to the other committee members by the thesis committee chair when they vote on the oral defence. Once the ballots are completed, signed and sealed it is the committee chairperson's responsibility to deliver the ballots to the Graduate Education Office immediately following the defence.

### **Submission of thesis**

A copy of Ph.D. Dissertation (both hard and soft, according to KMU thesis guidelines) must be submitted to HEC for record in Ph.D. Country Directory and for attestation of the PhD degree by the HEC in future.

## **Doctoral Oral Qualifying Examination (Thesis defence)**

### **Prerequisites**

Prior to the doctoral student's request for consideration for advancement to candidacy, the student must have;

- Completed most of their required core or elective course work
- Successfully passed their Preliminary/Written Qualifying Exam
- Submission of their research proposal and the formation of their research committee
- Initiation of the major components of their proposed doctoral research project
- Finally registration for any research hours
- The oral qualifying exam will be scheduled after the student has submitted a detailed dissertation research proposal and conducted preliminary experiments to substantiate the proposal.
- The Plagiarism test must be conducted on the Dissertation before its submission to the two foreign experts.
- Evaluation of the doctoral thesis by 2 eminent foreign examiners from scientifically advanced countries, approved by HEC.

### **Research Publication**

Publication of at least one research paper in HEC approved/recognized journal (preferably in W category) is essential before the submission of dissertation.

### **The Defence**

- The oral exam will be public and designed to test the student's fundamental knowledge of their proposed studies, background for the studies, and critical analysis and thinking.
- Viva voce examination by 2 national experts, approved by HEC.

The defence of the dissertation provides an opportunity for the student to formally present their findings to their committee, the faculty and students in KMU, and to any family member or anyone from the general public wishing to attend.

Two weeks before the dissertation defence an electronic and print announcement of the date, time, location, and title of the defence will be publicized.

At least 7 working days prior to the defence, a final draft of the student's dissertation must be placed in the Conference Room for faculty and students to review.

The dissertation defence is two parts. First the student will make an oral, PowerPoint presentation of no longer than 45 minutes duration where they present their research.

Following the presentation, questions from the collective audience will be encouraged. Once all questions have been satisfactorily answered by the student, the audience is excused and the closed, or executive, part of the defence takes place with only the student and their committee present. The dissertation committee can ask detailed questions and expect the student to demonstrate thorough knowledge of their project and related research. Questions on general topics in Anatomy, unrelated to their research, may also be asked. Following all questioning, the student is excused from the room and the committee members, without discussion, complete the defence ballot

### **Fellowships**

A limited number of fellowships are available to support doctoral studies. Doctoral fellows will be expected to participate with faculty in the education of medical, professional, and graduate students working in both our teaching laboratories and classrooms. Acceptance into the doctoral program does not guarantee the awarding of a fellowship or any other financial assistance. Consideration for a Doctoral Fellowship will be based on the qualifications of the candidate and the selection of the fellowship award recipient will be made solely by the Graduate Program Director.

### **Course Outline**

Programme wise course distribution in each department

***Note: 1 credit hour means 16 hours of contact. Credit hours shown as 2+1 or 2+0 means 2 credit hours of theory and 1 credit hour of practical while "0" means no practical.***

<b>First semester Compulsory courses (8 credit hours Plus 1 for all specialties)</b>		
BMS: 801	Advances in Molecular Cell Biology	1+1 Credit Hrs
BMS: 802	Ethics for research scientists	1+0 Credit Hrs
BMS: 803	Applied biostatistics-II	1+1 Credit Hrs
BMS: 804	Presentation & scientific writing skills	1+1 Credit Hrs
BMS: 805	Biosafety & biosecurity	1+0 Credit hours
BMS :806	Research rotations(Two Electives)	1+0 Credit hours
<b>Second Semester (1 Credit hour)</b>		
BMS 807	Teaching rotation (elective choice)	1+0 Credit hours
<b>Third and Sixth Semesters (6 credit hours)</b>		
BMS: 899	Thesis	6 Credit Hrs
<b>Core courses (Specialty-wise courses) (8 Plus 1 credit hours)</b>		
<b>Semester 2: PhD Histopathology</b>		<b>Semester 2: PhD Microbiology</b>
HIS 801	Community oriented histopathology	1+3
MIC 801	Advances in bacteriology	2+1
HIS 802	Biomarkers & Molecular pathology	1+1
MIC 802	Advances in virology	1+1
HIS 803	Cancer genetics	2+0
MIC 803	Advances in Immunology	1+1

<b>Optional</b>		
BMS 808	Research techniques in Histopathology	1+1
BMS 809	Seminar	2+0

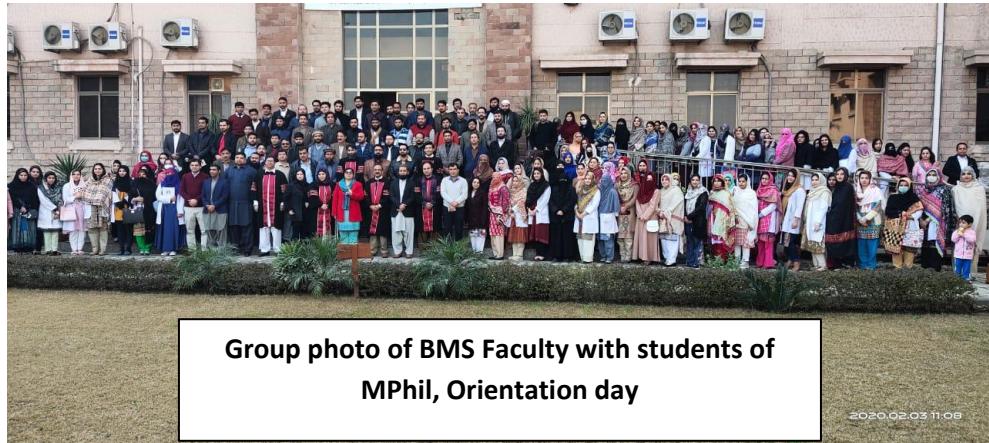
MIC 804	Advances in Parasitology & Mycology	1+1
<b>Optional</b>		
BMS 811	Advanced molecular techniques	1+1
BMS 812	Advances in cytology & cell signaling	1+1
BMS 813	Advanced microscopy	1+1

<b>Semester 2: PhD Haematology</b>		
HEM 801	Molecular Haematology	2+0
HEM 802	Haematology practice in Pakistan	2+1
HEM 803	Recent advances in haematology therapeutic	2+1
BMS 807	Teaching Rotation (Elective choice)	1+0

<b>Semester 2: PhD Oral Pathology</b>		
OPT 801	Advanced Microscopic, Histological and molecular techniques	2+1
OPT 802	Oral Cytopathology	1+0
OPT 803	Oral and Maxillofacial Pathology	1+1
OPT 804	Oro-dental Microbiology	1+0
OPT 805	Oral Medicine and Radiology	1+1

## MPHIL (MASTER OF PHILOSOPHY)

Haematology	Histopathology	Microbiology	Oral Pathology
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## **Mission**

This department endeavors to be a world-class Institute providing quality knowledge in Basic Medical and laboratory sciences to those who rightfully seek it. To strengthen its existing postgraduate programs by upgrading them and launching new ones for diversification and to facilitate the production of trained scientists and researchers who will meet the demands in the country.

## **Overview**

This is a two-year course that shall include both *taught courses* as well as *research*.

In the first semester, students shall complete the core courses required by the Basic Medical Sciences program as well as completing research rotations whereby selecting a research supervisor and mentor. They shall complete a qualifying exam at the end. In the second semester the remaining courses in Basic Medical Sciences will be undertaken. In the third semester they shall complete a clinical rotation in different labs and attached hospitals. In the fourth semesters they shall complete a research project, dissertation writing and defending their thesis. In addition the course engages its students in activities ranging from optimization of laboratory protocols and animal handling to poster & oral presentations and critical reviews of recent studies in the corresponding Basic Medical Sciences courses.

The institute arranges research days and conferences at various intervals throughout the year, in which the new inductees are given an opportunity to develop an orientation regarding the core activities and structure of the institute while the current students present their posters and critical reviews and receive feedback from the faculty members of different departments.

Furthermore, students are assessed for their understanding and application of Basic Medical Sciences knowledge through both formative and summative assessments.

## **Outcomes**

The Graduate of M.Phil Basic Medical Sciences will have the attributes of a Subject specialist, scientific researcher, Educator, Effective communicator and Collaborator. By the end of the course students should have achieved the required level of,

- Subject based knowledge and skills
- Relevant basic as well as applied research in biomedical sciences
- Quality and credible research
- Presentation and communication skills
- Capability of teaching medical disciplines

## **PROGRAM DETAILS**

<b>COURSE TITLE</b>	M.Phil
<b>SPECIALTY</b>	Histopathology, Haematology, Microbiology, Oral Pathology
<b>COURSE DURATION</b>	Two years
<b>TYPE OF STUDY</b>	Full time
<b>STUDY SYSTEM</b>	Semesters system <ul style="list-style-type: none"><li>● 4 Regular Semester</li></ul>

	<ul style="list-style-type: none"> <li>● 2 semesters for coursework</li> <li>● 2 semesters for research work</li> </ul>
<b>TOTAL CREDIT HOURS</b>	<ul style="list-style-type: none"> <li>● Total Credit hours 30 <ul style="list-style-type: none"> <li>■ 24 Credit hours Course Work</li> <li>■ 6 credit Hours Research work</li> </ul> </li> </ul>
<b>DISTRIBUTION OF COURSES AND CREDIT HOURS</b>	<ul style="list-style-type: none"> <li>● 1<sup>st</sup> semester (12 Credit hours) <ul style="list-style-type: none"> <li>■ 4 Compulsory courses (8 Credit hours)</li> <li>■ Specialty courses (4 credit hours)</li> </ul> </li> <li>● 2<sup>nd</sup> semester (12 Credit hours) <ul style="list-style-type: none"> <li>■ Specialty Courses (8 Credit Hours)</li> <li>■ Optional Courses (4 Credit hours)</li> </ul> </li> <li>● 3<sup>rd</sup> semester ( no credit course) <ul style="list-style-type: none"> <li>■ Clinical rotations in labs and hospitals</li> </ul> </li> <li>● 4<sup>th</sup> Semester (6 credit hours) <ul style="list-style-type: none"> <li>■ Research work and Thesis Writing</li> </ul> </li> </ul>
<b>DEGREE AWARDING INSTITUTION</b>	Khyber Medical University Peshawar
<b>TEACHING INSTITUTION</b>	Institute of Pathology and Diagnostic Medicine (PDM) Khyber Medical University Peshawar
<b>ADMISSION / ELIGIBILITY CRITERIA</b>	<p><b>For Haematology, and Histopathology:</b> MBBS, BDS or equivalent medical qualification registered by the PMDC/PMC.</p> <p><b>For Microbiology:</b> MBBS, BDS or equivalent medical qualification registered by the PM&amp;DC or BS-4years, MS/MSc (BS- Microbiology/MLT/Biotechnology).</p> <p><b>For Oral Pathology:</b> BDS or equivalent qualification fully recognized/ registered by the PMDC/PMC.</p>

### **Mentors**

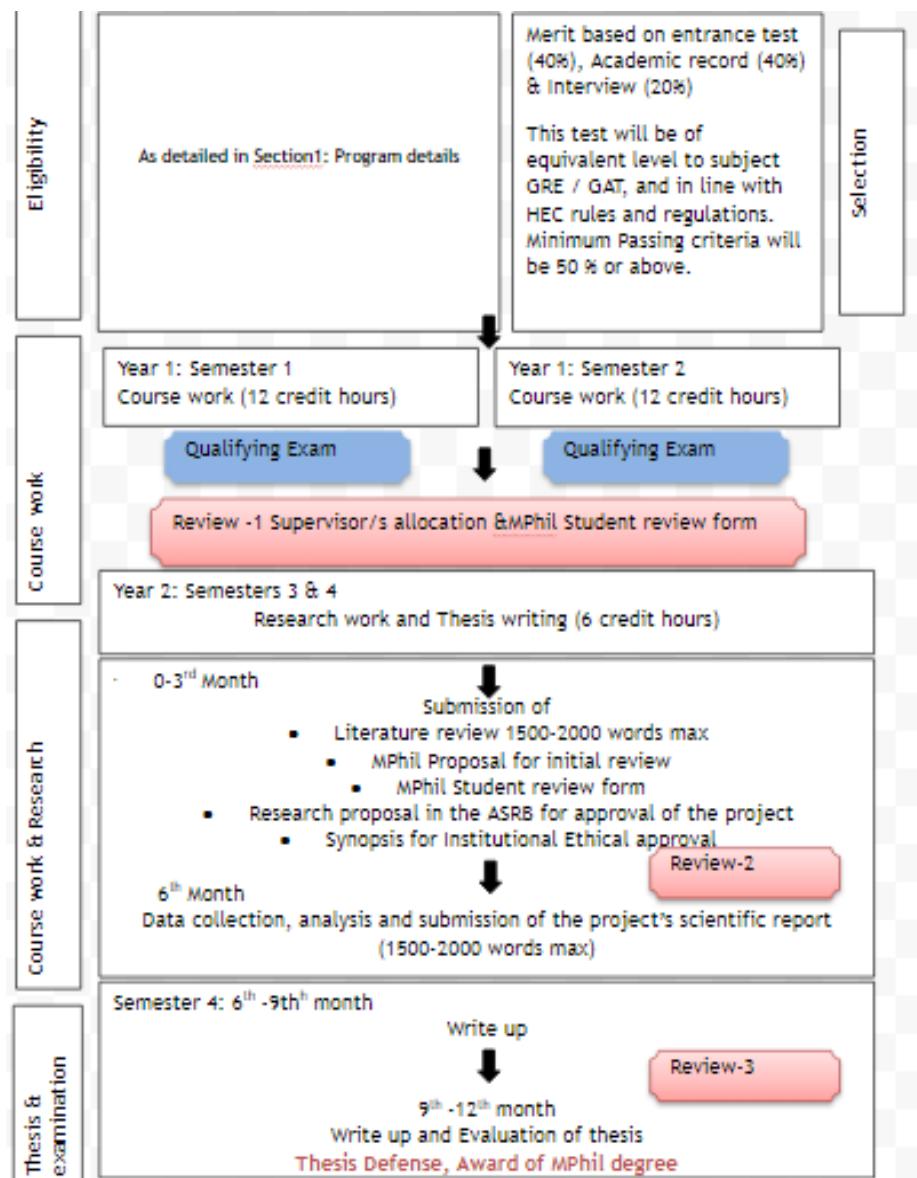
The students shall select their teaching mentor in the first and research mentor at the end of second semester. The coordinator shall serve as mentor before selection of mentors.

### **Duration of M.Phil Degree**

A HEC recognized supervisor would supervise the research work and award of degree and co-supervisor from related areas of expertise. Upon admission to M.Phil program a supervisor will be allotted to the enrolled student who will guide the student in the selection of his/her area of research along with the development of research proposal and protocol. The supervisor and co-supervisor will also ensure that the student develop essential skills according to his area of research. The requirements for M.Phil degree shall normally be completed within two years from the date of registration. The maximum time for the completion of M.Phil degree shall be four years from the date of registration in the M.Phil program. Only under exceptional circumstances, to be described in detail by the M.Phil candidate and supported by the supervisor, the M.Phil advisory committee may allow extension of up to one year

beyond the maximum time limit of four years. A total of 30 hours (24 credit hours coursework, 06 hours dissertation research) is required for graduation.

## Programme structure



## Review Process

### Year 1

The scholar shall clear End of semester qualifying exams to progress to next semester.

After successfully clearing two End of semester exams, the student shall proceed to Year 2 of M.Phil. The first review will include submission of M.Phil student review form (Annexure I) and allocation of supervisors to the each M.Phil student.

## **Year 2**

### **0-3 Month**

The student shall submit a review of the literature for the potential project (1500 Words minimum, 2000 Words maximum) in the form of a scientific report.

The student should submit an M.Phil Proposal to his/her supervisor for initial review. The supervisor will then assess the project and identify training needs if required.

The student should now accommodate supervisor comments, re-check from supervisor and submit research proposal to IPDM Graduate Study Committee. This should be followed by submission of "M.Phil Student Review Form" (Annexure 1), literature review and defense of research proposal in the annual review meeting of the Advanced Studies Review Board (ASRB) and Ethical approval.

### **6<sup>th</sup> Months (Review 2)**

The review process of Year 2 includes,

- Bi-annual presentation# in the Department at the end of 6<sup>th</sup> and 9th month organized by the Head of the Department followed by submission of "M.Phil Student review form"
- Scientific report\*

The student should be working on collecting data, optimize experiments, establish collaborations and develop experimental/research plan for successful completion of M.Phil project. In addition the student shall submit a scientific report of maximum of 1500-2000 words.

Students and supervisors should complete the Bi-annual review process by stipulated dates of the year. Any student starting late will normally be permitted to delay submission of their annual report as decided by departmental head.

Two reviewers assigned by supervisor at the beginning of year 2 will assess the progress of student. The progress made by the student will then be communicated to the relevant supervisor and head of the department.

### **6<sup>th</sup>-9<sup>th</sup> Months (Review 3)**

At this point the students shall be doing the write up of their research projects and present it to their respective supervisors, who will review them as a part of bi annual research days.

#### **\*Scientific report**

A scientific report preferably in the style of a journal article (6 to 10 pages maximum is recommended) summarizing progress made in the last year. It may therefore contain an abstract, introduction, materials and methods, results and discussion. In addition, there should be a 1500-2000 word section at the end of the report detailing the following year's work (Future plans). To be sent to supervisor for assessment and comment (half a page maximum) and subsequently submitted to the reviewers.

#### **#Presentation**

All M.Phil students are required to deliver oral presentation in the meeting, especially organized for them. This is followed by discussion, including minimum of two subject experts. The decision will then be take decision regarding the registration of student for the next session.

## **Thesis pending period**

Final 9-month interview - Students at absolute thesis submission deadline will be interviewed specifically on their progress in the review meeting (For thesis writing guidelines see KMU website)

## **Qualifying Examinations and Defense**

### **End of Semester Exam**

Upon completion of the core curriculum, the student must prepare for and successfully pass the M.Phil qualifying examination at the end of each semester (1 &2) to test their knowledge of basic medical sciences grasp of relevant literature, and the ability to form research hypotheses and experimental design. It shall be a written and oral exam.

### **Submission of thesis**

The copies of M.Phil dissertation (both hard and soft) must be submitted to university library for record purposes.

### **M.Phil Oral Qualifying Examination (Thesis defense)**

#### **Prerequisites**

Prior to the M.Phil student's request for consideration for the defense, the student must have;

- Completed most of their required course work
- Successfully passed their end of semester exams.
- Submission of their research proposal to Graduate studies, ASRB and ethical board.
- The oral qualifying exam will be scheduled after the student has submitted a detailed dissertation research proposal and conducted preliminary experiments to substantiate the proposal.
- The Plagiarism test must be conducted on the Dissertation before its submission to the two external reviewers.
- After the approval from the 2 external reviewers, the dissertation will be forwarded to internal and external examiners for deliberation before the defense.

#### **The Defense**

- The defense of the dissertation provides an opportunity for the student to formally present their findings to his/her examiners.
- Two weeks before the dissertation defense an electronic and print announcement of the date, time, location, and title of the defense will be provided to the student and the supervisor.
- The defense will consist of 2 phases; firstly the student will make an oral, PowerPoint presentation of his/her project for no longer than 20minutes, followed by the question answer session by the examiners.
- Once thoroughly evaluated, the examiners will make their final declaration and the M.Phil degree will be awarded to the student.



### Fellowships

A limited number of fellowships are available to support studies. Fellows will be expected to participate with faculty in the education of medical, professional, and graduate students working in both our teaching laboratories and classrooms. Acceptance into the program does not guarantee the awarding of a fellowship or any other financial assistance. Consideration for a Fellowship will be based on the qualifications of the candidate and the selection of the fellowship award recipient will be made solely by the Director

### Courses Outline

Programme wise course distribution in each department

***Note: 1 credit hour means 16 hours of contact. Credit hours shown as 2+1 or 2+0 means 2 credit hours of theory and 1 credit hr of practical while "0" means no practical.***

### MPhil Thesis Defence

<b>First semester Spring Compulsory courses (8 credit hours, for all specialties)</b>		
BMS: 701	Cell and Molecular Biology	1+1 Credit Hrs
BMS: 702	Applied Biostatistics	1+1 Credit Hrs
BMS: 703	Communication Skills and Health Research	1+1 Credit Hrs
BMS: 704	Biosafety and Research Ethics	1+1 Credit Hrs
<b>Third Semester (No credit course)</b>		
Clinical training in labs and attached hospitals		
<b>Third and Fourth Semesters (6 credit hours)</b>		
BMS: 799	Thesis	6+0 Credit Hrs

<b>Core courses (Specialty-wise courses) (12 credit hours)</b>					
<b>Semester 1:Mphil Histopathology</b>			<b>Semester 1:MphilHaematology</b>		
HIS 707	General Pathology	2+0	HEM 707	General Pathology	2+0
HIS 708	Respiratory& CVS	1+1	HEM 702	Physiology of blood, clotting and immunity	1+1
<b>Semester 2:Mphil Histopathology</b>			<b>Semester 2:MphilHaematology</b>		
HIS 709	GIT & Hepatopancreatico-biliary pathology	1+1	HEM 703	Disorders of Red blood cells	1+1
HIS 710	Urinary &Genital system	1+1	HEM 704	Disorders of white blood cells	1+1
HIS 711	Endocrine and Neuropathology	1+1	HEM 705	Bleeding disorders	1+1
HIS 712	Head and Neck Pathology and Cytology	1+1	HEM 706	Transfusion medicine	1+1
<b>Optioinal courses</b>			<b>Optioinal courses</b>		
BMS719	Lympho-reticular pathology	1+1	BMS 714	Therapeutics in Haematology	1+1
BMS720	Skin, soft tissue, & osteo-articular pathology	1+1	BMS 715	Molecular Haematology	1+1
BMS721	Histopathology Techniques	1+1	BMS 716	Systemic & tropical haematology	1+1
BMS723	Cancer biomarkers	1+1	BMS 717	Developmental and neonatal haematology	1+1
			BMS 718	Immunity	1+1

<b>Semester 1:Mphil Oral pathology</b>			<b>Semester 1: M.Phil in Microbiology</b>		
OPT 701	General pathology	2+0	MIC 701	General Microbiology	1+1
OPT 702	Medical microbiology&immunology	2+0	MIC 707	General Pathology	2+0
<b>Semester 2:Mphil Oral pathology</b>			<b>Semester 2: M.Phil in Microbiology</b>		

OPT 703	Head and Neck Anatomy	2+0
OPT 704	Oral pathology	1+0
OPT 705	Oral microbiology &immunology	1+1
OPT706	Histopathology& cytopathology	0+2
<b>Optional</b>		
BMS757	Oral physiology	2+0
BMS 758	Clinical pathology	1+1
BMS759	Oral medicine	2+0
BMS760	Nutrition and oral health	2+0

MIC 702	Systematic Bacteriology	1+1
MIC 703	Virology	1+1
MIC 704	Medical Mycology and Parasitology	1+1
MIC 705	Basic Immunology	1+1
<b>Optional</b>		
MIC 711	Zoonotic diseases	1+1
MIC 712	Microbiotic Genetics	1+1
MIC 713	Molecular Basis of Antimicrobial drugs	1+1
MIC 714	Autoimmunity & Immune disorders	1+1
MIC 715	Basic cytology &Cell culture	1+1

**DISTRIBUTION OF SEATS:** The number of seats in M.Phil (Basic Medical Sciences) Programs will be determined from time as per available seats and number of Supervisors.

## BS (BACHELOR OF SCIENCE)

### Medical Microbiology

#### Mission

The mission of the BS Medical Microbiology program is to produce skilled work-forced graduates capable of combating infectious diseases through diagnosis, prevention, and control of pathogens. This will be achieved through quality education, an integrated curriculum emphasizing pathogenesis, immunology and molecular diagnostics, combined with rigorous hands-on laboratory training and research orientation. The program is designed for students aspiring to build careers in clinical laboratories, public health, research, academia, and the healthcare system..

#### Program Overview:

The BS Medical Microbiology is a four-year undergraduate program combining coursework and research training. Students complete core courses across eight semesters and pass a qualifying examination upon completion. The program offers a mandatory internship in a state-of-the-art **Public Health Reference Laboratory (PHRL)**, providing hands-on diagnostic and laboratory experience. Students must also complete a Capstone Project to fulfill degree requirements. The program also engages students actively in research as well in other co-curricular activities including conferences, workshops, seminars and extra-curricular activities like sports, debate competition and Green Youth Movement.

#### Outcomes

##### Upon successful completion of the program, graduates will be able to:

1. Demonstrate comprehensive knowledge of microbiology, including pathogenesis, immunology, molecular biology, and advanced diagnostic techniques.
2. Perform and interpret laboratory procedures relevant to clinical microbiology and community healthcare settings.
3. Apply microbiological skills to disease prevention, infection control, and public health improvement.
4. Practice professional ethics and adhere to regulatory standards in diagnostic, research, and healthcare environments.
5. Communicate effectively and work collaboratively in multidisciplinary healthcare and research teams.
6. Exhibit leadership qualities in professional and academic settings.
7. Engage in lifelong learning through higher education, certifications, and continuous professional development.
8. Conduct basic research using scientific methods and critical thinking skills.
9. Utilize modern laboratory technologies and digital tools in microbiological investigations.
10. Demonstrate social responsibility by contributing to community health and safety initiatives.

**PROGRAM DETAILS**

<b>COURSE TITLE</b>	BS
<b>SPECIALTY</b>	Medical Microbiology
<b>COURSE DURATION</b>	Four years
<b>TYPE OF STUDY</b>	Full time
<b>STUDY SYSTEM</b>	Semesters system 8 Regular Semester
<b>TOTAL CREDIT HOURS</b>	Total Credit hours 140 Internship: 3 Credit hr Capstone: 3 Credit hr
<b>DISTRIBUTION OF COURSES AND CREDIT HOURS</b>	<ul style="list-style-type: none"> <li>● 1<sup>st</sup> semester (17 Credit hours)</li> <li>● 2<sup>nd</sup> semester (18 Credit hours)</li> <li>● 3<sup>rd</sup> semester (18 Credit hours)</li> <li>● 4<sup>th</sup> Semester (18 credit hours)</li> <li>● 5<sup>th</sup> Semester (18 credit hours)</li> <li>● 6<sup>th</sup> Semester (18 credit hours)</li> <li>● 7<sup>th</sup> Semester (18 credit hours)</li> <li>● 8<sup>th</sup> Semester (15 credit hours)</li> </ul>
<b>DEGREE AWARDING INSTITUTION</b>	Khyber Medical University Peshawar
<b>TEACHING INSTITUTION</b>	Institute of Pathology and Diagnostic Medicine (PDM) Khyber Medical University Peshawar
<b>ADMISSION / ELIGIBILITY CRITERIA</b>	Candidates who have passed F.Sc (Pre medical) or Equivalent Examination with a minimum of 50% marks and appeared in the KMU-cat screening test of Khyber Medical University.
<b>Fee Structure</b>	<p style="color: red;">1st semester and admission fee:60,000/-</p> <p style="color: red;">2nd Semester &amp; Onwards fee: 50,000/- semester</p>
<b>Scholarship Available</b>	HEC Need Based Scholarship, KMU Endowment Fund, Bait-Ul-Mal, Scottish Scholarship, French Scholarship

## Courses Outline

Programme wise course distribution in each department

**Note: 1 credit hour means 16 hours of contact. Credit hours shown as 2+1 (3+1) or 2+0 (3+0) means 2 or 3 credit hours of theory and 1 credit hr.of practical while "0" means no practical.**

**The curriculum is according to the HEC Undergraduate Education Policy (Fall 2023) and approved from the Academic Council Khyber Medical University**

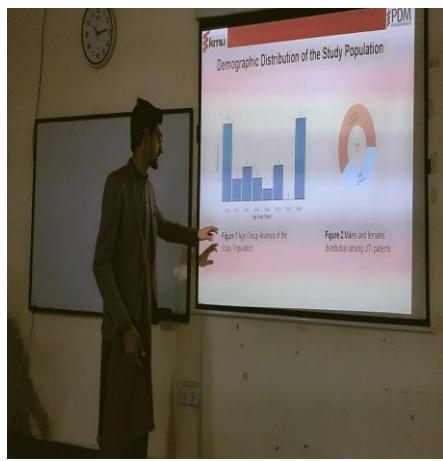
<i>Course Code</i>	<i>Course Title</i>	<i>Credit Hours</i>
<i>Semester 1st</i>		
<i>MIC-306</i>	<i>Microbial Diversity &amp; Systematics</i>	<i>3(2+1)</i>
<i>MIC-304</i>	<i>Fundamentals of Microbiology</i>	<i>3(2+1)</i>
<i>MIC-303</i>	<i>Quantitative Reasoning-I</i>	<i>3(3-0)</i>
<i>MIC-305</i>	<i>Islamic Studies</i>	<i>2(2-0)</i>
<i>MIC-301</i>	<i>Functional English</i>	<i>3(3-0)</i>
<i>MIC-302</i>	<i>Biochemistry-I</i>	<i>3(2+1)</i>
<i>Semester 2<sup>nd</sup></i>		
<i>MIC-311</i>	<i>Cell Biology</i>	<i>3(2+1)</i>
<i>MIC-308</i>	<i>Microbial Physiology &amp; Metabolism</i>	<i>3(2+1)</i>
<i>MIC-312</i>	<i>Application of ICT</i>	<i>3(2+1)</i>
<i>MIC-309</i>	<i>Quantitative Reasoning-II</i>	<i>3(3-0)</i>
<i>MIC-313</i>	<i>Social Science</i>	<i>2(2-0)</i>
<i>MIC-307</i>	<i>Expository Writing</i>	<i>3(3-0)</i>
<i>MIC-314</i>	<i>Understanding of Quran-I</i>	<i>1(1-0)</i>
<i>Semester 3<sup>rd</sup></i>		
<i>MIC-419</i>	<i>Microbial Genetics</i>	<i>3(2+1)</i>

<i><b>MIC-415</b></i>	<i><b>General Pathology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-418</b></i>	<i><b>Molecular Biology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-414</b></i>	<i><b>Art &amp; Humanities</b></i>	<i><b>2(2-0)</b></i>
<i><b>MIC-421</b></i>	<i><b>Biochemistry-II</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-416</b></i>	<i><b>Pakistan Studies</b></i>	<i><b>2(2-0)</b></i>
<i><b>MIC-417</b></i>	<i><b>Entrepreneurship</b></i>	<i><b>2(2-0)</b></i>
<i><b>Semester 4<sup>th</sup></b></i>		
<i><b>MIC-424</b></i>	<i><b>One Health</b></i>	<i><b>3(3-0)</b></i>
<i><b>MIC-422</b></i>	<i><b>General Immunology</b></i>	<i><b>4(3+1)</b></i>
<i><b>MIC-423</b></i>	<i><b>Medical Bacteriology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-426</b></i>	<i><b>Bioethics, Biosafety &amp; Biosecurity</b></i>	<i><b>3(3-0)</b></i>
<i><b>MIC-425</b></i>	<i><b>Civics &amp; Community Engagement</b></i>	<i><b>2(2-0)</b></i>
<i><b>MIC-427</b></i>	<i><b>Human Anatomy &amp; Physiology</b></i>	<i><b>3(2+1)</b></i>
<i><b>Semester 5<sup>th</sup></b></i>		
<i><b>MIC-534</b></i>	<i><b>Medical Virology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-533</b></i>	<i><b>Medical Mycology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-532</b></i>	<i><b>Food, Water &amp; Soil Microbiology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-528</b></i>	<i><b>Public Health Microbiology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-529</b></i>	<i><b>Bioinformatics</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-531</b></i>	<i><b>Biostatistics</b></i>	<i><b>3(3-0)</b></i>
<i><b>Semester 6<sup>th</sup></b></i>		
<i><b>MIC-535</b></i>	<i><b>Medical Parasitology</b></i>	<i><b>3(2+1)</b></i>

<i><b>MIC-536</b></i>	<i><b>Clinical &amp; Diagnostic Microbiology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-5**</b></i>	<i><b>Elective-I</b></i>	<i><b>3</b></i>
<i><b>MIC-537</b></i>	<i><b>Scientific Writing &amp; Research Methods</b></i>	<i><b>3(3-0)</b></i>
<i><b>MIC-538</b></i>	<i><b>Analytical Chemistry</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-539</b></i>	<i><b>Understanding of Quran-II</b></i>	<i><b>1(1-0)</b></i>
<i><b>Semester 7<sup>th</sup></b></i>		
<i><b>MIC-639</b></i>	<i><b>General Pharmacology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-641</b></i>	<i><b>Antimicrobial Agents &amp; Resistance</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-6**</b></i>	<i><b>Elective-II</b></i>	<i><b>3</b></i>
<i><b>MIC-642</b></i>	<i><b>Recombinant DNA Technology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-643</b></i>	<i><b>Epidemiology &amp; Public Health</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-644</b></i>	<i><b>Clinical Rotation</b></i>	<i><b>3(0-3)</b></i>
<i><b>Semester 8<sup>th</sup></b></i>		
<i><b>MIC-645</b></i>	<i><b>Vaccinology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-6**</b></i>	<i><b>Elective-III</b></i>	<i><b>3</b></i>
<i><b>MIC-6**</b></i>	<i><b>Elective-IV</b></i>	<i><b>3</b></i>
<i><b>MIC-646</b></i>	<i><b>Artificial Intelligence in Microbiology</b></i>	<i><b>3(2+1)</b></i>
<i><b>MIC-647</b></i>	<i><b>Capstone Project</b></i>	<i><b>3</b></i>

### Elective Courses

<i>Course Code</i>	<i>Course Title</i>	<i>Credit Hours</i>
<i>MIC-541</i>	<i>Zoonosis</i>	<i>3(2+1)</i>
<i>MIC-542</i>	<i>Environmental Microbiology</i>	<i>3(2+1)</i>
<i>MIC-543</i>	<i>Microbial Enzyme Kinetics</i>	<i>3</i>
<i>MIC-544</i>	<i>Cell &amp; Tissue Culture</i>	<i>3(2+1)</i>
<i>MIC-545</i>	<i>Microbial Biotechnology</i>	<i>3(2+1)</i>
<i>MIC-649</i>	<i>Neglected Tropical Diseases</i>	<i>3</i>
<i>MIC-651</i>	<i>Medical Entomology</i>	<i>3(2+1)</i>
<i>MIC-652</i>	<i>Management of Infectious Diseases</i>	<i>3(2+1)</i>
<i>MIC-653</i>	<i>Fermentation Technology</i>	<i>3(2+1)</i>
<i>MIC-654</i>	<i>Emerging Diagnostic Techniques in Microbiology</i>	<i>3(2+1)</i>
<i>MIC-655</i>	<i>Genomics &amp; Proteomics</i>	<i>3</i>
<i>MIC-656</i>	<i>Nano Biotechnology</i>	<i>3(2+1)</i>
<i>MIC-657</i>	<i>Immunobiology</i>	<i>3(2+1)</i>
<i>MIC-658</i>	<i>Automation in Microbiology Laboratory</i>	<i>3(2+1)</i>



## BS Medical Microbiology defense

### Certificate and Diploma Courses

S.no	Certificate/Diploma	Duration
1	Certificate in phlebotomy technology	6 months
2	Certificate in Quality management in clinical labs	6 months
3	Certificate in genetic counselling	6 months
4	Certificate in infection prevention and control	6 months
5	Certificate in phlebotomy technology	6 months
6	Certificate in bio risk management	6 months
7	Certificate in genetic Counselling	6 months

Fully funded scholarships are available

### **Training programme for scholars at IPDM:**

Six months training is available for scholars at IPDM , gaining practical exposure and strengthening professional competencies throughout the program.

### **TERMS OF REFERENCES FOR TRAINING OF SCHOLARS OF IPDM**

The following terms of references are suggested for the scholars during practical/diagnostic training.

#### **1. Training**

- . Head Department of Pathology will assign the trainee to relevant section with consent of Director IPDM.
- a. The Head Department of Pathology will communicate the expected diagnostic competencies to trainee.
- b. The Head Department of Pathology will be responsible for overall diagnostic training of trainee.

#### **2. Daily attendance in training department with focal person**

- . The scholar will mark his attendance on a proforma with Head Department of Pathology on prescribed days.
- a. Leave from training day will be granted by Head Department of Pathology during training period.

#### **3. Training assignments**

- . Head Department of Pathology will share the monthly duty roster with Director IPDM.
- a. Weekly log sheet will be maintained by trainee and duly signed by Director IPDM and Head Department of Pathology

#### **4. Duration of Training**

- . The duration of training will be 06 months
- a. The certificate of training completion will be issued by Head Department of Pathology with consent of supervisor.

### **IPDM ACADEMIC AND RESEARCH ACTIVITIES**

Keeping in view their real life impact, different co-curricular activities are conducted by IPDM including seminars, scientific talks, symposia, periodic research days, workshops, trainings and conferences

**List of academic and research activities (January 2025 –June 2026)**

<b>S. No</b>	<b>Nature of activity</b>	<b>Topic</b>	<b>Speaker</b>
1	Symposium	One day symposium on vaccination/immunization	Prof Dr Zia ul Haq, Prof Dr. Rubina Nazli, Prof Dr. Ihsanullah, Prof Dr.Taj Ali , Prof Dr.Yasar Yousafzai, Dr. Gulab Fatima Rani, Dr. Naveed Shareef,
2	Research Consortium	Closing ceremony of oral cancer research project funded by HEC and British Council UK and Launch of Pak-UK Oral Cancer Research Consortium	Prof Dr Zia Ul Haq, Prof Dr Asif Ali, Prof Dr Yasir Yousafzai, Dr.Benish Aleem
3	Seminar	Human Papilloma Virus (HPV) Seminar	Prof.Dr.Rubina Nazli, Prof.Dr. Yasar Yousafzai, Prof Dr. Taj Ali, Prof. Dr.Ihsanullah, Dr.Naveed, Dr.Abdul Salam, Dr, Gulab Fatima
4	Workshop	Thesis writing workshop	Prof. Dr.Ihsanullah
5	Health Campaigns	Oral Health awareness/Hygiene campaign	Dr. Benish Aleem , Prof. Dr. Ihsanullah
6	Symposium	World Iron Deficiency day	Prof. Dr.Yasar Yousafzai, Dr.Gulab Fatima, Dr.Kinza Ayaz, Dr. Ansa Kalsoom, Dr.Nida Khan, Dr Bibi Maryam
7	Symposium	World Thalassemia day	Prof. Dr.Yasar Yousafzai, Dr.Gulab Fatima,
8	Conference/Workshop	PAP, PSOMP preconference workshops and conference	Prof. Dr.Asif Ali, Dr.Benish Aleem, Dr.Naveed Shareef, Dr.Ihsanullah, Dr.Abbas, Dr.Nauman
9	Conference	One week conference on Antimicrobial resistance week AMR by microbiology department 2024	Prof.Dr.Ihsanullah, Dr.Taj Ali Khan, Dr. Bushra Rehman
10	Workshop	Workshop on Thalassemia molecular diagnostics, prenatal sampling and genetic counselling	Prof. Dr.Yasar Yousafzai, Dr.Gulab Fatima Rani, Dr. Musharraf Jeelani, Maj.Gen Suhaib Ahmad, Dr.Wajeeha Syed
11	AMR week	World Antimicrobial resistance awareness week 2025	Prof DrRubina Nazli, Prof Dr. Taj Ali, Prof Dr Ihsanullah, Dr.Nida Khan
12	AMR Workshops	Workshop on blood culture, workshop on TB diagnosis, Hands on workshop on PCR skill development, Biosafety workshop	Dr. Asghar, Dr Jamila, Shershah, Dr.Hafsa, Dr.Sajjad, Dr.Anwar Sheed, Dr Shehzad
13	Seminar	Worlds AIDS day in collaboration with National AIDS control programme	Prof Dr Ihsanullah, Prof Dr Taj Ali Khan, Dr. Jamila Haider, Mr Shabeer, Mr Fawad, Mr Abbas(Provincial AIDS control programme team)

## One day Symposium on Immunization/Vaccination



## Closing ceremony of oral cancer research project funded by HEC and British Council UK and Launch of Pak-UK Oral Cancer Research Consortium



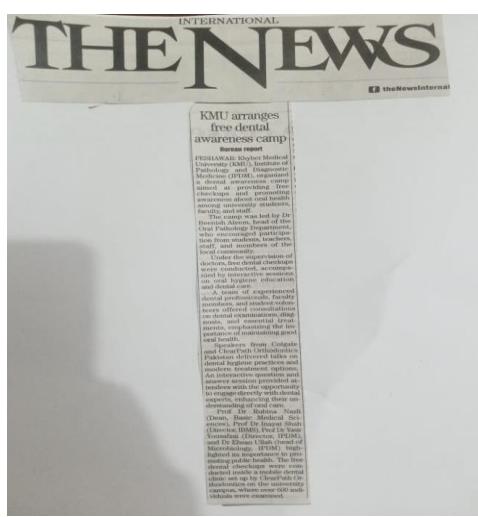
## Human Papilloma Virus Seminar (HPV) Seminar:



## ORAL HEALTH AWARENESS CAMPAIGN

### DENTAL CAMP WAS HELD AT KMU ORAL PATHOLOGY DEPARTMENT ON 8TH MAY 2025

A dental camp was successfully held at Khyber Medical University (KMU) on 8th May 2025 under the supervision of Dr. Benish Aleem. The camp was organized and conducted by the Oral Pathology students of the 2025 batch. It aimed to promote oral health awareness and provided free dental check-ups to students and staff. Oral health screening, dental examinations and patient counseling, were carried out as part of the oral health awareness program. The initiative contributed to early detection of oral diseases and emphasized the importance of maintaining good oral hygiene.



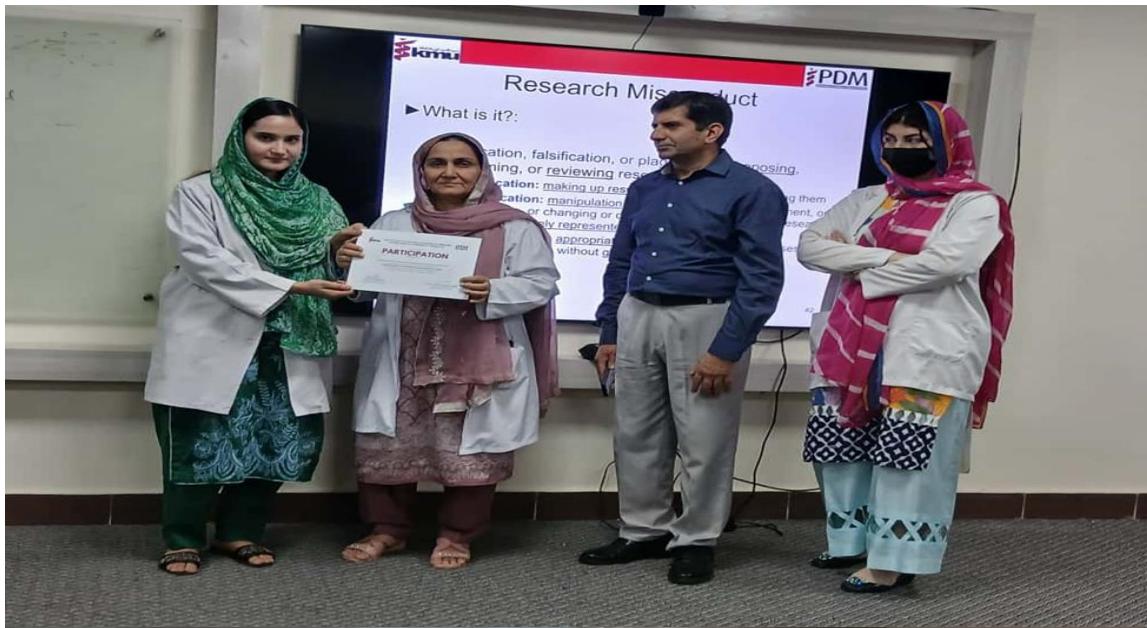




### Thesis writing workshop:



خیبر میڈیکل یونیورسٹی کے داؤن چانسلر پروفیسر ڈاکٹر ضیاء الحق میڈیکل کیمپ کا افتتاح کر رہے ہیں



## World Iron Deficiency Day:

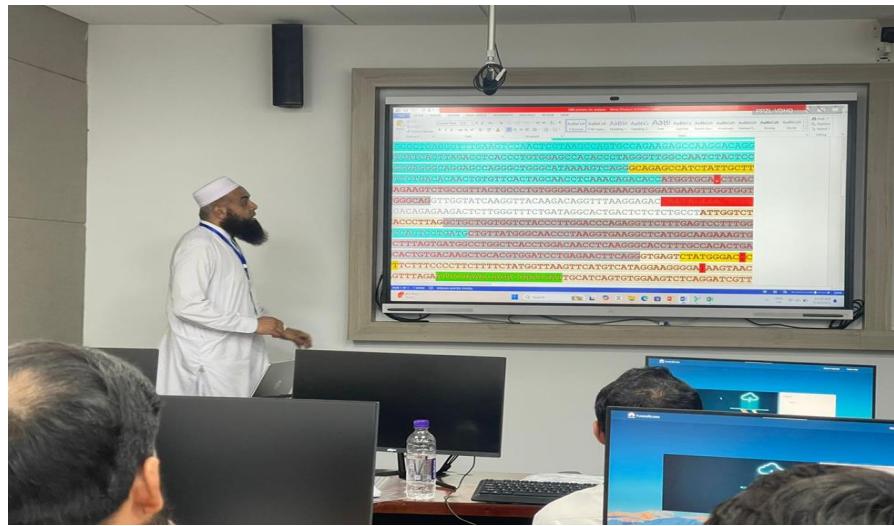


## World Thalassemia Day:



## Genetic Counselling Workshop:





### AMR Week workshops :





### World AIDS Day:



## **IPDM Committees**

1. Harassment Committee
2. Disciplinary Committee
3. Grievances Redressal Committee
4. Regional Exam Center Committee
5. BS Medical microbiology curriculum Committee
6. Ethical Committee