COLLEGE OF MEDICINE & DENTISTRY AT THE HILLS

CURRICULUM

BACHELOR OF MEDICINE, BACHELOR OF SURGERY (MBBS)

Class of 2025-29

Department of Medical Education

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Note:

This document outlines the proposed MBBS curriculum for the 2025-26 academic session at the College of Medicine and Dentistry at the Hills, Abbottabad. It has been designed in strict alignment with the Pakistan Medical and Dental Council (PMDC) 2024 guidelines and integrates the modular educational framework of Khyber Medical University (KMU). This curriculum is a dynamic document, subject to continuous refinement through faculty and student feedback, official committee reviews, and directives from regulatory bodies to ensure the highest standards in undergraduate medical education

1. LIST OF ABBREVIATIONS

Abbreviation	Full Form
APPENDIX	Appendix (Referenced documents for modules)
BDS	Bachelor of Dental Surgery
CMDH	College of Medicine and Dentistry at the Hills
CVS	Cardiovascular System
DME	Department of Medical Education
EMR	Electronic Medical Record
ENT	Ear, Nose, and Throat (Otorhinolaryngology)
Endo	Endocrine
EYE	Ophthalmology
GIT	Gastrointestinal Tract
HEC	Higher Education Commission (Pakistan)
KMU	Khyber Medical University
LPP	Longitudinal Patient Panel
MBBS	Bachelor of Medicine, Bachelor of Surgery
MCQ	Multiple Choice Question
MSK	Musculoskeletal System
NQF	National Qualifications Framework
OPD	Outpatient Department
OSCE	Objective Structured Clinical Examination
OSPE	Objective Structured Practical Examination
OT	Operating Theater
PBL	Problem-Based Learning
PD	Professional Development
PMDC	Pakistan Medical and Dental Council
PRIME	Professionals Ready for Innovative Medical Excellence (also defined as Professionalism, Research, Identity, Management, Ethics)
QI	Quality Improvement
RES	Respiratory System
Repro	Reproductive System
SDL	Self-Directed Learning
SEQ	Short Essay Question
TTI	Transition to Internship
UME	Undergraduate Medical Education

2 VISION OF THE INSTITUTE

To be a leading institution in medical education, dedicated to cultivating a workforce of professional leaders who excel in providing equitable, affordable, and exemplary healthcare while addressing the diverse health needs of our nation and the global community.

3 MISSION OF THE INSTITUTE

To deliver a transformative medical education that empowers future healthcare leaders to innovate in clinical care and health system design. Our mission is supported by a passionate and diverse faculty committed to fostering collaboration, upholding the highest ethical standards, and addressing healthcare disparities. We are committed to providing exceptional patient care and fostering the next generation of healthcare professionals.

4 VISION OF KMU

Khyber Medical University will be the global leader in health sciences academics and research for efficient and compassionate health care.

5 MISSION OF KMU

Khyber Medical University aims to promote professional competence through learning and innovation for providing comprehensive quality health care to the nation.

6 INTRODUCTION

The *MBBS program* curriculum at the *College of Medicine and Dentistry at the Hills, Abbottabad* has been meticulously developed to maintain the highest standards of medical education. It aligns with the frameworks established by **Khyber Medical University (KMU)**, the **Pakistan Medical and Dental Council (PMDC)**, and the **Higher Education Commission (HEC)**. The curriculum's primary focus is to equip future medical professionals with comprehensive knowledge, skills, and ethical values, preparing them to make significant contributions to the healthcare sector.

A. Purpose

The purpose of this curriculum is to ensure that students become proficient in both the scientific and clinical aspects of medicine. It aims to instill ethical standards and patient-centered care principles, preparing graduates for the multifaceted challenges of modern medical practice. The curriculum also strives to nurture the development of medical professionals who are capable of lifelong learning and adaptation in the ever-evolving medical field.

B. Scope

The scope of the curriculum spans a wide range of medical disciplines, emphasizing a **modular, integrated approach** that blends basic medical sciences with clinical exposure. From the first year, students engage in both theoretical knowledge and practical clinical skills. The integration of disciplines ensures that the curriculum addresses all aspects of medical education, including **knowledge, skills, and attitudes** essential for effective patient care. It also includes opportunities for early clinical exposure, the use of **problem-based learning (PBL)**, and **self-directed learning (SDL)**.

C. Teaching Methodologies

The curriculum employs a variety of teaching methodologies, including lectures, small group discussions, problem-based learning, case-based learning, and clinical placements. Active learning strategies such as **problem-based learning** and **self-directed study** are integral, promoting critical thinking and independent learning. These strategies are supported by **formative assessments** and feedback to guide students' progress.

D. Assessment Framework

The curriculum incorporates a comprehensive assessment framework to evaluate students' knowledge, skills, and professional behavior. This includes 20% **formative (internal) and 80% summative (external) assessments**, such as written exams, Objective Structured Clinical Examinations (OSCEs), and Objective Structured Practical Examinations (OSPEs). The Mini-CEX model and bedside teaching, along with comprehensive record logbooks and reflection methodologies, are proposed for use during clinical rotations and clerkships. The assessment framework ensures that students are well-prepared for the responsibilities they will face as medical professionals. KMU is the guiding and regulatory authority in conducting, monitoring, and declaring the summative examinations.

E. Continuous Improvement

The curriculum is designed to be dynamic and responsive, incorporating continuous feedback from students, faculty, and healthcare professionals. This mechanism allows for regular updates and improvements, ensuring the curriculum remains relevant to the latest advancements in medical

education and healthcare. Regular curricular reviews ensure that the curriculum evolves to meet both local and global healthcare needs.

7 CURRICULUM OUTCOME:

The MBBS curriculum at the *College of Medicine and Dentistry at the Hills, Abbottabad* aims to produce competent, ethical, and professional physicians who can deliver evidence-based, high-quality patient care. Graduates will demonstrate the necessary knowledge, skills, and attitudes to serve as health care providers, decision-makers, communicators, managers, community leaders, researchers, and lifelong learners, contributing to the well-being of individuals and communities.

Graduates of the College of Medicine and Dentistry at the Hills, Abbottabad will be equipped with:

- **Comprehensive Medical Knowledge:** The ability to **analyze** and **apply** biomedical, clinical, and behavioral sciences, **enabling** them to **innovate** in clinical care and health system design, thereby **supporting** transformative medical education.
- **Clinical Competence:** The capability to **implement** patient-centered care and **utilize** evidence-based practices, **contributing** to healthcare innovation and **empowering** future healthcare leaders.
- **Ethical Practice:** Proficiency in **evaluating** ethical dilemmas, **advocating** for patients, and **adhering** to professional standards, **reflecting** our commitment to lifelong learning and **maintaining** community trust, supported by a passionate and diverse faculty.
- **Public Health Awareness:** The ability to **understand** and **apply** principles of preventive medicine and public health, **actively contributing** to improving population health and **addressing** healthcare disparities.
- **Excellence in Healthcare:** The skill to **excel** in delivering equitable, affordable, and exemplary healthcare, **embodying** our vision to be a leading institution in medical education.
- **Leadership Skills:** The capability to **assume** leadership roles in healthcare, **demonstrating** strong communication skills, effective teamwork, and **committing** to professional and ethical standards.
- **Research and Innovation:** The ability to **engage** in research and **promote** innovation, **driving** continuous improvement in healthcare delivery and **aligning** with our vision of exemplary and equitable healthcare.
- **Interdisciplinary Collaboration:** The ability to **work** effectively within interdisciplinary teams and **contribute** to addressing diverse health needs, **reflecting** our vision to comprehensively meet the needs of the nation and global community.

8 PROGRAM OUTCOMES:

By the end of the MBBS program, graduates will be able to:

1. **Provide patient care** that is evidence-based, cost-effective, and patient-centered, addressing individual health needs as well as public health concerns.

2. **Make informed decisions** in clinical settings, balancing efficacy and cost-effectiveness, considering patients' socio-economic circumstances.

3. **Communicate effectively** with patients, families, and the healthcare team, using empathy and clarity to foster positive health outcomes.

4. **Exhibit leadership and management** skills essential for high-quality healthcare delivery, teamwork, and conflict resolution in a multidisciplinary environment.

5. **Conduct and appraise research**, using scientific inquiry to address emerging healthcare challenges.

6. **Demonstrate lifelong learning**, adopting self-directed learning strategies to stay current in medical knowledge and skills.

9 PROGRAM OBJECTIVES:

1. **Knowledge:**

   - Acquire a strong foundation in medical sciences (anatomy, physiology, biochemistry, pathology, pharmacology, etc.), integrating this knowledge with clinical practice to understand, diagnose, and treat medical conditions.
   - Stay informed about advancements in medical technology, diagnostics, and therapeutics.

2. **Skills:**

   - Develop clinical competencies such as history-taking, physical examination, diagnosis, and treatment planning.
   - Cultivate problem-solving abilities to make appropriate, evidence-based clinical decisions.
   - Hone research skills to conduct independent research and contribute to medical science.

3. **Attitude:**

   - Foster ethical practices and professionalism, upholding patient rights, confidentiality, and dignity.
   - Demonstrate empathy and cultural sensitivity in patient care, acknowledging the diversity of patient backgrounds.
   - Commit to continuous professional development, engaging in reflective practice and lifelong learning.

10 CURRICULUM FRAMEWORK

The curriculum framework for the *MBBS program* at the *College of Medicine and Dentistry at the Hills, Abbottabad* adopts a comprehensive and innovative approach to medical education, structured to promote a deep understanding of both basic and clinical sciences. This framework is based on the

modular system and the **spiral integration concept**, ensuring that students develop both foundational and advanced knowledge throughout the program.

Modular System Overview

The modular system divides the curriculum into clearly defined blocks each containing variable number of modules. The modules are based on system that integrates multiple disciplines around a common theme. These modules are designed to enhance the learning experience by presenting students with a structured, focused approach to understanding complex medical topics.

1. **Integration of Disciplines:**

    - Each module incorporates both basic medical sciences (e.g., anatomy, physiology, biochemistry) and clinical sciences (e.g., pathology, pharmacology, and clinical skills) to provide a well-rounded understanding.
    - The system encourages horizontal integration, where subjects from different disciplines are taught concurrently to provide students with a comprehensive understanding of the human body and disease processes.

2. **Structured Learning Pathway:**

    - Modules are structured to progressively introduce concepts from simple to complex, allowing students to build on previously acquired knowledge.
    - Each module includes clear learning objectives, key concepts, and assessment criteria, which guide students in achieving the desired competencies.

3. **Active Learning Methods:**

    - The modular system incorporates problem-based learning (PBL), small group discussions, and clinical case studies to foster an active learning environment.
    - These methods encourage critical thinking, collaboration, and application of knowledge in real-world scenarios.

4. **Assessment within the Modular System:**

    - Formative assessments (quizzes, case presentations) are conducted throughout the module to monitor progress and provide feedback.
    - Summative assessments at the end of each module evaluate students' mastery of the module content through written exams and practical assessments such as **OSCE/OSPE**.

Spiral Integration Concept

The spiral integration concept in medical education refers to the revisiting of topics at multiple stages of the curriculum, with increasing depth and complexity each time. This concept allows for continuous reinforcement and deeper understanding of core medical principles.

1. **Reinforcement of Core Concepts:**

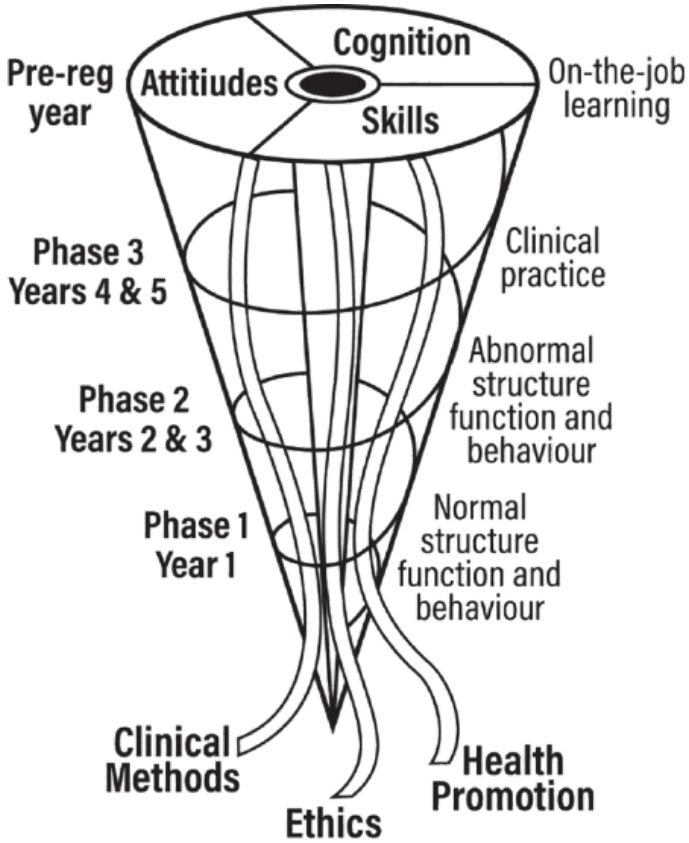
    - In the spiral curriculum, key medical concepts are introduced early and revisited multiple times throughout the program. For example, concepts like cardiovascular physiology may

be introduced in the first year, revisited in clinical settings during the third year, and applied in more complex clinical cases in the final year.

- Each revisit builds on the previous level of understanding, promoting a deeper, more sophisticated grasp of the material.

2. **Vertical Integration:**

- The spiral approach also promotes **vertical integration**, where clinical sciences are introduced alongside basic sciences from the very beginning. For example, students may



learn about the anatomy of the heart while also exploring its clinical significance through patient cases or simulations.

- This vertical integration helps students make direct connections between theoretical knowledge and practical application in patient care, enhancing clinical reasoning skills.

3. **Gradual Transition to Clinical Competence:**

- As students progress through the curriculum, the spiral integration helps bridge the gap between basic and clinical sciences, allowing them to transition smoothly into clinical practice.
- The focus gradually shifts from foundational knowledge to more complex clinical skills, preparing students for the challenges of real-world medical practice.

4. **Interdisciplinary Collaboration:**

- The spiral integration concept encourages interdisciplinary collaboration among faculty members from different specialties, ensuring that students receive a holistic and integrated medical education.

By utilizing the modular system and spiral integration, the curriculum at the *College of Medicine and Dentistry at the Hills, Abbottabad* provides students with a well-rounded, structured, and dynamic learning experience, preparing them for success in their medical careers.

11 YEAR-WISE BREAKDOWN OF CURRICULUM

The medical curriculum is meticulously designed to build a robust foundation of medical knowledge and clinical skills over five years. Each year of the program is structured into distinct blocks and modules, progressively advancing students' understanding from basic sciences to complex clinical applications. The curriculum integrates various systems and interdisciplinary approaches to ensure a comprehensive education that prepares students for the multifaceted nature of medical practice. Below is a detailed breakdown of the curriculum by year, followed by an explanation of each year's focus.

<table>
<tr><th>Year</th><th>Block</th><th colspan="3">Module(s)</th><th colspan="2"></th></tr>
<tr><td rowspan="3">1st year</td><td>A</td><td>Foundation-I</td><td colspan="2">Blood-I</td><td rowspan="10">Quran Kareem</td><td rowspan="3"></td></tr>
<tr><td>B</td><td colspan="3">MSK-I</td></tr>
<tr><td>C</td><td>CVS - I</td><td colspan="2">RES – I</td></tr>
<tr><td rowspan="3">2nd year</td><td>D</td><td>Neurosciences 1A</td><td colspan="2">Neurosciences 1B</td><td rowspan="3">Pak_Study/Islamite</td></tr>
<tr><td>E</td><td>GIT -I</td><td colspan="2">Renal-I</td></tr>
<tr><td>F</td><td>Endo – I</td><td colspan="2">Repro - I</td></tr>
<tr><td rowspan="3">3rd year</td><td>G</td><td>Foundation - II</td><td colspan="2">Infection & Inflammation-II</td><td rowspan="3">English Expository Writing</td></tr>
<tr><td>H</td><td>Multisystem-I</td><td>Blood & Immunology-II</td><td>MSK-II</td></tr>
<tr><td>I</td><td>CVS - II</td><td colspan="2">RES – II</td></tr>
<tr><td rowspan="5">4th year</td><td>J</td><td colspan="3">Neurosciences-II</td><td colspan="2" rowspan="5">Arts & Humanities</td></tr>
<tr><td>K</td><td colspan="3">GIT & Hepatobiliary - II</td></tr>
<tr><td>L</td><td>Renal-II</td><td colspan="2">Endo & Repro- II</td></tr>
<tr><td>MI</td><td>ENT</td><td colspan="2" rowspan="2">Horizontal Module</td></tr>
<tr><td>M2</td><td>EYE</td></tr>
<tr><td rowspan="4">PRIME Year</td><td>N</td><td>Foundation-III</td><td>Blood & Immunology-III</td><td>MSK-III</td><td colspan="2" rowspan="4">Clerkship, Electives, Observership</td></tr>
<tr><td>O</td><td colspan="3">Cardiorespiratory-III</td></tr>
<tr><td>P</td><td>Renal-III</td><td colspan="2">Endo & Repro-III</td></tr>
<tr><td>Q</td><td>Neurosciences-III</td><td>GIT & Hepatobiliary-III</td><td>Multisystem-III</td></tr>
<tr><td></td><td>PRIME</td><td colspan="5">Horizontal Module</td></tr>
</table>

The structure of the MBBS curriculum is a deliberate and pedagogical sequence designed around the principle of spiral integration and scaffolded learning. It ensures that students build knowledge from foundational concepts to complex clinical applications, with each year serving as a crucial stepping stone to the next. The integration of horizontal, non-medical subjects is strategically timed to support the students' personal and professional development at each stage**.**

12 PROPOSED COURSE CODING SCHEME

Introduction

The proposed coding outlines the standardized course coding system for the Bachelor of Medicine, Bachelor of Surgery program. This system is designed to provide a clear, logical, and unique identifier for every module within the curriculum. The primary objectives of this coding framework are to facilitate academic administration, enhance clarity for students and faculty in tracking academic progress, and ensure consistency across university records, including transcripts and the degree audit system. The structure aligns with the broader goals of maintaining an organized and transparent curriculum structure.

Rationale and Methodology

The coding scheme was developed based on a systematic analysis of the curriculum's structure and pedagogical sequence. The following key principles guided its design:

- **Sequential and Unambiguous Identification:** A continuous numbering sequence was adopted to assign a unique code to each module, preventing duplication and simplifying database management.
- **Reflection of Pedagogical Flow:** The sequence of codes is intended to mirror the intended learning progression of the student, starting from foundational sciences and advancing to integrated, complex clinical systems.
- **Clear Differentiation of Content:** To maintain a sharp focus on the core professional curriculum, all non-medical and general education subjects have been grouped together at the end of the coding sequence. This clearly distinguishes them while retaining their mandatory status within the program.

Reference to HEC Guidelines

This coding structure is formulated in the spirit of the Higher Education Commission (HEC) of Pakistan's National Qualifications Framework (NQF) for Level 6 Professional Degrees. The format adheres to common national practices in higher education, utilizing a [Program Abbreviation]-[Numerical Code] format to ensure standardization and ease of recognition. The system supports the HEC's emphasis on clear, transparent, and well-documented academic programs.

How to Read the Course Codes

Each course code is structured as MBBS-XXX, where:

The first digit represents the Academic Year in which the module is primarily taught.
1 = First Year
2 = Second Year
3 = Third Year
4 = Fourth Year
5 = Final Year

The last two digits represent the Sequential Module Number within the entire curriculum, starting from 01. This number indicates the module's position in the overall sequence of the core medical program.

Examples:
MBBS-101: A 1st-year module, and the 01 (first) module in the core sequence.
MBBS-205: A 2nd-year module, and the 05 (fifth) module in the core sequence.
MBBS-312: A 3rd-year module, and the 12 (twelfth) module in the core sequence.
MBBS-137: A module from the 1st year, but assigned a high sequence number (37) as it is a non-medical subject placed at the end of the coding list.

Disclaimer
The course codes presented in this document are part of a proposed logical framework for curriculum documentation. While designed to be robust and aligned with national guidelines, the final and authoritative course codes are subject to confirmation and approval by the university's relevant academic bodies and the Registrar's office. This framework is intended for illustrative and planning purposes within this curricular document.

Table of proposed coding of five-year's modules.

Year	Block	Module Name	Proposed Course Code
1st Year	A	Foundation-I	**MBBS-101**
	A	Blood-I	**MBBS-102**
	B	MSK-I	**MBBS-103**
	C	CVS - I	**MBBS-104**
	C	RES – I	**MBBS-105**
2nd Year	D	Neurosciences 1A	**MBBS-106**
	D	Neurosciences 1B	**MBBS-107**
	E	GIT -I	**MBBS-108**
	E	Renal-I	**MBBS-109**
	F	Endo – I	**MBBS-110**
	F	Repro - I	**MBBS-111**
3rd Year	G	Foundation - II	**MBBS-112**
	G	Infection & Inflammation-II	**MBBS-113**
	H	Multisystem-I	**MBBS-114**
	H	Blood & Immunology-II	**MBBS-115**
	H	MSK-II	**MBBS-116**
	I	CVS - II	**MBBS-117**
	I	RES – II	**MBBS-118**
4th Year	J	Neurosciences-II	**MBBS-119**

	K	GIT & Hepatobiliary - II	**MBBS-120**
	L	Renal-II	**MBBS-121**
	L	Endo & Repro- II	**MBBS-122**
	M1	ENT	**MBBS-123**
	M2	EYE	**MBBS-124**
Final Year	N	Foundation-III	**MBBS-125**
	N	Blood & Immunology-III	**MBBS-126**
	N	MSK-III	**MBBS-127**
	O	Cardiorespiratory-III	**MBBS-128**
	P	Renal-III	**MBBS-129**
	P	Endo & Repro-III	**MBBS-130**
	Q	Neurosciences-III	**MBBS-131**
	Q	GIT & Hepatobiliary-III	**MBBS-132**
	Q	Multisystem-III	**MBBS-133**
	PRIME	Horizontal Module	**MBBS-134**
	N	Clerkship, Electives, Observership	**MBBS-135**
---	---	**NON-MEDICAL SUBJECTS**	---
1st	A	Quran Kareem	**MBBS-136**
2nd	D	Pak_Study/Islamiat	**MBBS-137**
3rd	G	English Expository Writing	**MBBS-138**
4th	J	Arts & Humanities	**MBBS-139**

Year 1 (APPENDIX 1-5)

Laying the Foundation of Normal Structure and Function

The first year is dedicated to establishing a robust understanding of the normal human body. It begins with Foundation-I, which provides the essential language of medicine (anatomy, histology, embryology) and core biochemical principles. This is immediately applied to the Blood-I module, a self-contained system ideal for introducing core physiological and biochemical concepts. The curriculum then progresses to the Musculoskeletal (MSK-I) system, which is tangible and fundamental to physical examination. The year concludes with the Cardiovascular (CVS-I) and Respiratory (RES-I) systems, two vital, interconnected systems that are high-prevalence in clinical practice. This sequence allows students to master the "normal" before encountering the "abnormal" in subsequent years.

Block A: Foundation-I and Blood-I

- **Foundation-I**: Provides the essential knowledge of human anatomy, histology, and embryology necessary for understanding subsequent medical subjects.
- **Blood-I**: Covers fundamental concepts in hematology, including blood cell formation and common blood disorders.

Block B: MSK-I

- **MSK-I**: Focuses on the musculoskeletal system, including detailed study of bones, muscles, and joints, along with common musculoskeletal disorders.

Block C: CVS-I and RES-I

- **CVS-I**: Introduces cardiovascular anatomy and physiology, addressing basic cardiovascular diseases.
- **RES-I**: Covers respiratory system anatomy, physiology, and common respiratory conditions.

Horizontal Subject: Quran Kareem

Introducing Quran Kareem in the first year provides an ethical and spiritual foundation at the very outset of the medical journey. It helps shape the professional identity of the students, instilling values of compassion, integrity, and service before they are exposed to the ethical challenges of clinical practice.

Year 2 (APPENDIX 6-11)

Mastering Core Systems and Introducing Neuroscience

The second year delves into more complex regulatory and integrative systems. Neurosciences is placed here due to its complexity, requiring a solid foundational knowledge from Year 1. It is split into two parts (1A & 1B) to allow for deep, manageable learning. The Gastrointestinal (GIT-I) and Renal-I modules are paired as they are central to metabolism, nutrition, and homeostasis. The year concludes with the Endocrine (Endo-I) and Reproductive (Repro-I) systems, which control and coordinate bodily functions. This block teaches students how the body maintains internal balance and reproduces itself, completing the picture of core organ system physiology.

Block D: Neurosciences 1A and 1B

- **Neurosciences 1A**: Basics of neuroanatomy and neurophysiology.
- **Neurosciences 1B**: Builds on foundational knowledge with advanced topics in neurological disorders.

Block E: GIT-I and Renal-I

- **GIT-I**: Study of the gastrointestinal system's anatomy, physiology, and common diseases.
- **Renal-I**: Introduces renal anatomy, physiology, and common disorders.

Block F: Endo-I and Repro-I

- **Endo-I**: Covers endocrine glands, hormone functions, and related disorders.
- **Repro-I**: Focuses on the reproductive system's anatomy and physiology, including common health issues.

Horizontal Subjects: Pak-Study / Islamiate

Pak-Study and Islamiate in the second year foster a sense of civic responsibility and cultural context. As students' scientific knowledge deepens, these courses help them understand the societal and ethical framework in which they will practice medicine in Pakistan.

Year 3 (APPENDIX 12-18)

Transition to Pathology and Multisystem Integration

Year 3 marks the critical transition from "normal" to "abnormal." It begins by revisiting foundational sciences in Foundation-II, but now through the lens of pathology, microbiology, and pharmacology—the core tools for understanding disease. Infection & Inflammation-II provides a fundamental mechanism of disease that cuts across all organ systems. The curriculum then systematically revisits systems from Years 1 and 2 (e.g., Blood-II, MSK-II, CVS-II, RES-II), but

now with a focus on their pathological states. The introduction of Multisystem-I is key here, training students to think beyond single-organ diseases and understand complex, interconnected conditions.

Block G: Foundation-II and Infection & Inflammation-II

- **Foundation-II**: Expands on foundational knowledge with integrated learning across various systems.
- **Infection & Inflammation-II**: Delves into infectious diseases and inflammatory processes.

Block H: Multisystem-I, Blood & Immunology-II, and MSK-II

- **Multisystem-I**: Examines diseases affecting multiple organ systems.
- **Blood & Immunology-II**: Advanced study in hematology and immunology, including complex disorders.
- **MSK-II**: Continuation of musculoskeletal system study with focus on advanced conditions.

Block I: CVS-II and RES-II

- **CVS-II**: Advanced study of cardiovascular diseases and management.
- **RES-II**: Further exploration of respiratory conditions and diagnostic strategies.

Horizontal Subject: English Expository Writing

English Expository Writing is strategically placed in the third year as students begin preparing for clinical rotations. Effective written communication is essential for writing accurate patient histories, referrals, and eventually, research proposals. This skill is honed just before they need to apply it in clinical settings.

Year 4 (APPENDIX 19-24)

Advanced System Pathology and Specialized Disciplines

The fourth year focuses on advanced pathology and the introduction of specialized clinical disciplines. Systems are revisited at a deeper, more complex level (e.g., Neurosciences-II, GIT & Hepatobiliary-II), focusing on intricate diseases and their management. This is the point where disciplines like ENT and Ophthalmology (EYE) are introduced. These are sensory, organ-specific specialties that require the integrated basic science knowledge from earlier years but are best taught after the student has a firm grasp of systemic pathology.

Block J: Neurosciences-II

- **Neurosciences-II**: Advanced study in neurological disorders and brain functions.

Block K: GIT & Hepatobiliary - II

- **GIT & Hepatobiliary - II**: Focuses on complex diseases of the gastrointestinal and hepatobiliary systems.

Block L: Renal-II and Endo & Repro-II

- **Renal-II**: Advanced renal pathology and treatments.
- **Endo & Repro-II**: Detailed study of endocrine and reproductive disorders with clinical applications.

Block MI: ENT and Horizontal Module

- **ENT**: Study of ear, nose, and throat disorders.
- **Horizontal Module**: Integrates knowledge from various disciplines to address complex cases.

Block M2: EYE

- **EYE**: Covers ocular anatomy, diseases, and treatments.

Horizontal Subject: Arts & Humanities

Placing Arts & Humanities in the fourth year is a masterstroke of curriculum design. As students are immersed in complex disease and high-stakes clinical specialties, this course provides a crucial counterbalance. It nurtures empathy, resilience, and the ability to see the patient as a person with a story, not just a collection of symptoms, directly preparing them for the humanistic challenges of the Final Year clerkships.

PRIME Year (APPENDIX 25-33)

Clinical Synthesis and Preparation for Practice

The Final Year is the apex of the spiral curriculum, dedicated to synthesis and mastery. All major systems are revisited in their most advanced form (designated as -III), requiring students to integrate all prior knowledge to manage complex, real-world cases. Foundation-III represents a final consolidation of core medical sciences for clinical decision-making. The PRIME horizontal module is the ultimate integrative experience, forcing students to solve problems that cut across all disciplines, mirroring the reality of medical practice.

Block N: Foundation-III, Blood & Immunology-III, and MSK-III

- **Foundation-III**: Comprehensive review and integration of foundational knowledge.
- **Blood & Immunology-III**: Advanced study of hematologic and immunologic disorders.
- **MSK-III**: Focus on complex musculoskeletal conditions.

Block O: Cardiorespiratory-III

- **Cardiorespiratory-III**: Advanced study of cardiovascular and respiratory diseases.

Block P: Renal-III and Endo & Repro-III

- **Renal-III**: Detailed study of advanced renal disorders.
- **Endo & Repro-III**: Comprehensive coverage of endocrine and reproductive health.

Block Q: Neurosciences-III, GIT & Hepatobiliary-III, and Multisystem-III

- **Neurosciences-III**: Advanced study of neurological conditions.
- **GIT & Hepatobiliary-III**: Detailed exploration of gastrointestinal and hepatobiliary disorders.
- **Multisystem-III**: Integration of multisystem diseases with a focus on complex patient management.

Block PRIME: Horizontal Module

- **Horizontal Module**: Final integration of knowledge across all disciplines, applying learned concepts to complex and interdisciplinary cases.

Horizontal Component: Clerkship, Electives, Observership

The dominant horizontal theme of the Final Year is immersive clinical practice through Clerkships, Electives, and Observerships. This is the "see one, do one, teach one" phase, where theoretical knowledge is applied, refined, and transformed into clinical competence. This hands-on experience is

essential for transitioning from a student to an intern and future house officer, ensuring they are ready to assume the responsibilities of a physician.

The PRIME Year: A Distinction in Clinical Education

The dominant horizontal theme of the Final Year is The PRIME Year (Progressive Responsibility, Immersion, Mentorship, and Excellence), a capstone experience that moves beyond the traditional "see one, do one, teach one" model. This innovative framework is designed not only to apply knowledge but also to transform our students into practice-ready, leadership-oriented physician-scholars from the very first day of their internship. Our PRIME Year at CMDH Abbottabad features the following 7 distinctions.

1. Structured, Tiered Clerkship with Progressive Autonomy:

Unlike standard rotations, our clerkships follow a Tiered Responsibility Model. Students begin each rotation as an "Active Observer," rapidly progressing to "Assistant Manager" and finally "Student Lead" under close faculty supervision. In the "Student Lead" role, they are responsible for presenting all patients on the team, writing initial progress notes, and developing comprehensive management plans, fostering a tangible sense of ownership and accountability.

2. The "Longitudinal Patient Panel" (LPP) Project:

Each student will follow a small panel of 3-4 patients with chronic conditions (e.g., Diabetes, Heart Failure) throughout their final year. This innovative project, supported by a dedicated faculty mentor, requires students to track their patients across different clinical settings (outpatient, inpatient, post-discharge). The LPP cultivates deep, continuous doctor-patient relationships, enhances understanding of chronic disease management, and builds skills in care coordination—a critical competency often underdeveloped in undergraduate training.

3. Dedicated "Transition to Internship" (TTI) Electives:

We offer specialized, high-yield electives not commonly found in undergraduate curricula, such as:

Clinical Informatics & EMR Efficiency: Training on optimizing electronic medical records for patient safety and efficient care.

Residency Prep & Leadership: Focused on advanced communication, conflict resolution, and leading a clinical team.

Systems-Based Practice Elective: Students learn about hospital administration, quality improvement methodologies, and patient safety protocols, giving them a system-wide perspective.

4. Strategic Observerships with a "Procedural Passport":

Observerships are transformed from passive shadowing into skill-focused missions. Each student carries a "Procedural Passport" that must be stamped for competency in a defined set of essential skills (e.g., suturing, IV insertion, Foley catheterization, basic ultrasound). These are assessed not in a simulated lab, but in real clinical settings under direct observation, ensuring genuine readiness.

5. The Capstone "PRIME Project":

In their final "PRIME" horizontal module, students synthesize their learning through a required capstone project. This can be a Clinical Audit, a Quality Improvement Initiative, or a Community Health Intervention. This project demonstrates their ability to identify a problem, analyze data, implement a solution, and contribute meaningfully to improving patient care or the healthcare system, embodying our mission to "innovate in clinical care and health system design."

6. A Culture of Mentorship: The "Physician-Scholar" Advisor Program:

Each student is paired with a dedicated faculty advisor from the beginning of the final year. This advisor meets with them regularly to review clinical logs, discuss the LPP, guide the capstone project, and provide personalized career counseling, ensuring their growth is supported and directed.

7. Mandatory Peer-Reviewed Publication: The Physician-Scholar Initiative

As per the institute's research policy, approved by the Academic Council and endorsed by the executive leadership, every student is required to complete a research project culminating in a submission to a peer-reviewed journal by the end of the PRIME Year. This is not an ancillary activity but a core component of our curriculum, structured through a longitudinal, four-year mentorship program:

Year 1-2: Students are introduced to research methodology and biostatistics. They join a research group and select a faculty mentor, formulating their research question.

Year 3: Dedicated research blocks within clinical rotations allow for data collection and analysis under the guidance of their mentor.

PRIME Year: The focus shifts to manuscript writing, revision, and submission. The college provides support through scientific writing workshops and a dedicated research committee to facilitate the publication process.

This groundbreaking requirement ensures our graduates do not just consume medical knowledge but are equipped to critically appraise and contribute to it, setting them apart as true physician-scholars and making them exceptionally competitive for premier residency programs worldwide.

Conclusion:

The PRIME Year at the College of Medicine and Dentistry at the Hills is more than a final rotation; it is a guaranteed bridge to confident practice and scholarly contribution. By integrating progressive autonomy, longitudinal patient care, forward-thinking electives, a scholarly capstone, and a mandatory peer-reviewed publication, we ensure our graduates are not just qualified doctors, but emerging leaders and innovators equipped to excel, lead, and elevate the standard of healthcare from the very first day of their careers. This comprehensive approach truly differentiates our physicians, making them the preferred choice for top residency programs and future medical leadership.

THE DETAILS OF CONTENTS OF EACH MODULE, ALONG WITH ASSESSMENT BLUEPRINTS, ARE GIVEN IN THEIR RESPECTIVE APPENDIX, I.E., FROM 1 TO 34.

13 SUBJECT-WISE COURSE CONTENT

Course Title: Anatomy
Teaching hours: 709
Course Description:

This course aims to provide a comprehensive understanding of human anatomy by exploring the morphology and functional aspects of the human body. It covers the normal structure and function of the body and examines the implications of deviations from these norms. Students will engage with online multimedia resources, lectures, and practical sessions, including dissection, specimen examination, and model studies. The course equips students with the essential anatomical knowledge and skills needed for a career in healthcare.

Objectives

By the end of the course, students will be able to:

1. Develop an understanding of organ structure, position, orientation, and their interrelationships.
2. Recognize variations in organ structure based on individual differences, sex, and age.
3. Establish connections between gross and microscopic structures and their clinical implications.
4. Acquire detailed knowledge of cell, tissue, and organ structures.
5. Identify components of various systems, including their innervations, blood supply, and lymphatics, and understand their clinical relevance.
6. Describe basic embryological processes involved in the development of body systems.
7. Classify and explain structural variations and anomalies in relation to embryonic development.
8. Identify the osteology of the human skeleton using gross specimens and medical imaging, and list the clinical applications of imaging techniques such as X-ray, CT, MRI, and ultrasound.

Outcomes

Upon completion of this course, students will be able to:

1. Utilize essential anatomical terminology to describe body structures and their relationships.
2. Outline the origins, courses, and distributions of blood vessels, nerves, and lymphatics, along with their clinical implications.
3. Apply knowledge of gross anatomy to understand related pathologies.
4. Explain the topographic anatomy of bones, muscles, and joints, and address common musculoskeletal conditions such as fractures and dislocations.
5. Use dissection and specimen study skills to learn surgical procedures.
6. Map organ topography onto the body surface and interpret relevant clinical presentations.
7. Describe the nervous system's basic structure and functions, and identify gross lesions based on clinical deficits.
8. Analyze light microscopic structures of bodily systems and predict functional outcomes of structural alterations.

9. Correlate embryological principles with congenital anomalies and their clinical manifestations.
10. Apply anatomical knowledge to physical diagnosis, radiologic findings, and invasive procedures.
11. Demonstrate effective communication skills and professional behavior, adhering to ethical standards.

Textbooks & References:

1. *Gross Anatomy* by K.L. Moore
2. *Clinically Oriented Anatomy* by Richard Snell
3. *Last's Anatomy: Regional and Applied*
4. *Gray's Anatomy*
5. *Neuroanatomy* by Richard Snell
6. *Health Wheather's Functional Histology* by Young J.W.
7. *The Developing Human* by Keith L. Moore
8. *Langman's Medical Embryology*
9. *Netter Atlas*
10. *Basic Histology* by Laiq Hassan
11. *Atlas of Histology* by Difore

Course Title: Physiology
Teaching hours: 512
Course Description:

Physiology is a fundamental scientific discipline crucial for understanding normal body functions and their deviations in disease states. Taught in the 1st and 2nd years of MBBS and BDS programs, the course combines lectures and practical work to provide insights into how the body functions. Practical sessions are conducted in batches under the supervision of faculty members assigned by the chairperson of physiology.

Objectives

By the end of the course, students will be able to:

1. Evaluate, analyze, and apply physiological knowledge.
2. Interpret concepts of homeostasis and control mechanisms.
3. Describe cell functions at the ionic and molecular levels.
4. Explain organ system functions and their clinical relevance.
5. Discuss integrated body responses to various challenges.

Outcomes

Upon completion, students should:

1. Have a deep understanding of human physiology.
2. Comprehend the functions of major physiological systems, including cardiovascular, respiratory, renal, reproductive, and metabolic systems.
3. Understand how these systems interact to produce integrated physiological responses and their potential failures.
4. Perform, analyze, and report on physiological experiments and observations.
5. Recognize and identify the principles of tissue structures.

Textbooks & References:

1. *Medical Physiology* by Guyton and Hall
2. *Review of Medical Physiology* by W. Ganong
3. *Essentials of Physiology* by Laurle Sherwood
4. *Physiological Anatomy* by Elaine N. Marieb

Course Title: Biochemistry
Teaching hours: 262
Course Description:

Biochemistry examines the chemical processes and substances that occur within living organisms. It encompasses metabolism, which involves the breakdown of substances to release energy and the synthesis of complex molecules necessary for life. This course explores enzymatic actions, genetic influences on biochemical processes, and the relevance of biochemistry in medicine, nutrition, and genetics.

Objectives

By the end of the course, students will:

1. Understand the molecular mechanisms within living cells.
2. Comprehend the principles governing macromolecule structures.
3. Grasp the principles and mechanisms of metabolic control and molecular signaling.
4. Study the metabolism of carbohydrates, proteins, and lipids.
5. Explore the role of DNA in genetic information.
6. Understand cell proliferation control.
7. Learn the principles of bioenergetics and enzyme catalysis.
8. Apply basic laboratory skills to obtain reproducible biochemical data.

Outcomes

Students who complete this course will:

1. Demonstrate a broad understanding of introductory biochemistry concepts.
2. Analyze the structural-functional relationships of genes and proteins.
3. Explain the synthesis of proteins, lipids, nucleic acids, and carbohydrates, and their roles in metabolic pathways.
4. Identify potential laboratory hazards and use appropriate safety techniques.
5. Apply modern instrumentation theory and practice to biochemical problems.
6. Observe safe laboratory practices and adhere to proper procedures for chemical use and disposal.
7. Communicate biochemical concepts and experimental findings effectively, both in writing and orally.

Textbooks & References:

1. *Harper's Illustrated Biochemistry*
2. *Lippincott's Biochemistry* by Denise Ferrier
3. *Textbook of Biochemistry* by M.N. Chatterjee
4. *Essentials of Biochemistry* by Pankaj Naik

Course title: Pathology
Teaching hours: 505
Course Description:
Pathology is integral to understanding medicine and surgery, covering the fundamentals of disease processes. This course delves into the basis of diseases, including their causes, signs, symptoms, investigations, and prognosis. The curriculum includes four sections: microbiology, hematology, histopathology, and chemical pathology. Students will enhance their diagnostic skills and communication through class presentations and receive guidance on research interests.
Objectives:
By the end of the course, students will:

- Understand disease mechanisms, clinical features, and pathophysiology.
- Interpret investigations based on clinical history.
- Grasp genetic and molecular disease bases and neoplastic disorders.
- Learn about microorganisms and related diseases.

Outcomes:
Students who complete this course will:

- Comprehend inflammatory disorders, microbiology, hemodynamics, immunology, and neoplasia.
- Understand disease pathophysiology, including genetics and clinical features.
- Classify leukemias, lymphomas, and tumors.
- Perform, analyze, and report tests.
- Identify microscopic disease features.

Textbooks & References:

1. Kumar V, Abbas AK, Aster JC. *Robbins Basic Pathology*. 9th ed. Elsevier; 2013.
2. Levinson W. *Review of Medical Microbiology & Immunology*. 14th ed. McGraw-Hill; 2016.
3. Hoffbrand AV, Moss PAH. *Essential Hematology*.

Course title: Pharmacology
Teaching hours: 302
Course Description:
Pharmacology explores medication mechanisms, classifications, therapeutic uses, and side effects. Students learn drug administration principles, dosage calculations, and precautions. The course enhances clinical practice through tests, assignments, and group work, and introduces research on drug effects.
Objectives:
By the end of the course, students will:

- Describe drug mechanisms at various levels.
- Understand drug receptor interactions.
- Explain cellular signaling and drug metabolism.
- Implement practical pharmacology exercises.
- Introduce research basics in pharmacology.

Outcomes:
Students who complete this course will:

- Explain drug mechanisms, clinical implications, and side effects.
- Clarify pharmacokinetics and pharmacodynamics.
- Apply pharmacological principles clinically.
- Evaluate herbal medications' benefits and risks.
- Discuss toxicology principles and patient poisoning management.

Textbooks & References:

1. Katzung BG. *Basic and Clinical Pharmacology*. 14th ed.
2. Lippincott Illustrated Reviews of Pharmacology. 7th ed.
3. Goodman & Gilman's *The Pharmacological Basis of Therapeutics*. 13th ed.
4. Shahnawaz M. *Essentials of Pharmacology*. 9th ed.
5. Rang HP, Dale MM. *Rang & Dale's Pharmacology*. 1st ed.

Course title: Forensic Medicine & Toxicology
Teaching hours: 211
Course Description:

This course addresses medico-legal issues, including documentation and court testimony related to injuries and death. It connects law and medicine, preparing students for roles in legal investigations and forensic analysis.

Objectives:

By the end of the course, students will:

- Define and classify Pakistan's legal system, including medico-legal roles.
- Discuss personal identity, death, injuries, and forensic sexology.
- Differentiate death causes and manage toxicology cases.
- Prepare medico-legal certificates and court attendance.

Outcomes:

Students who complete this course will:

- Maintain medical professionalism and provide court testimony.
- Identify and report causes of death and injuries.
- Perform scientific autopsies and manage sexual crimes.
- Differentiate true and feigned insanity and manage forensic analyses.

Textbooks & References:

1. Knight B. *Simpson's Forensic Medicine*. 11th ed. Edward Arnold.
2. Parikh CK. *Textbook of Medical Jurisprudence, Forensic Medicine & Toxicology*. 6th ed. CBS Publisher.
3. Awan NR. *Principles and Practice of Forensic Medicine*.
4. Vij K. *Textbook of Forensic Medicine & Toxicology*. 4th ed.
5. Dikshit PC. *Textbook of Forensic Medicine & Toxicology*.
6. Rao GK. *Textbook of Forensic Medicine*.

Course title: Community Medicine
Teaching hours: 302
Course Description:

Community Medicine introduces public health principles, including health protection, improvement, and systems. Students gain experience through lectures, discussions, field visits, and a group research project, contributing to publishable papers and engaging in health system evaluations.

Objectives:

By the end of the course, students will:

- Understand community health problems and solutions.
- Apply social and preventive medicine concepts.
- Learn biostatistics principles and apply them.
- Conduct independent research and practice evidence-based medicine.
- Address ethical issues in medical practice.

Outcomes:

Students who complete this course will:

- Explain health terms and disease history.
- Describe disease epidemiology and healthcare systems.
- Apply biostatistics and solve related problems.
- Design and execute research and apply ethical principles.

Textbooks & References:

1. Park K. *Park's Textbook of Preventive and Social Medicine*. 24th ed.
2. Ansari IS. *Public Health and Community Medicine*. 8th ed.
3. Maxcy-Rosenau-Last. *Public Health and Preventive Medicine*.
4. Gordis L. *Epidemiology*.
5. Kuzma JW. *Basic Statistics for Health Sciences*.

Course title: Medicine
Teaching hours: 602

Course Description:

Medicine focuses on adult patient care, from health to complex illness. The course spans from basic to advanced levels, involving bedside teaching, patient interactions, history-taking, and physical examinations. Emphasis is placed on compassionate, evidence-based care.

Objectives:

By the end of the course, students will:

- Understand and apply medical knowledge to clinically ill.
- Analyze and identify learning gaps.
- Provide compassionate, evidence-based care.
- Uphold professional standards and ethical principles.
- Communicate effectively.

Outcomes:

Students who complete this course will:

- Demonstrate medical knowledge and apply it clinically.
- Integrate medicine knowledge into patient care.
- Identify learning gaps and pursue professional development.
- Engage in scholarly activities and provide patient-centered care.
- Perform diagnostic procedures and establish management plans.

Textbooks & References:

1. Davidson's *Principles and Practice of Medicine*.
2. Kumar & Clark. *Medicine*.
3. *Oxford Textbook of Medicine*.
4. Talley NJ. *Clinical Examination*.
5. Macleod J. *Macleod's Clinical Examination*.

Course Title: Pediatrics
Teaching hours: 301

Course Description: Pediatrics involves medical care for individuals under 18 years, including neonates, infants, children, and adolescents. Teaching pediatrics is crucial due to the vulnerability of this population. The subject covers a range from acute disorders to chronic diseases, preventive pediatrics, and nutrition. Effective teaching aims to improve health outcomes in children by reducing morbidity, mortality, and preventing communicable diseases.

Objectives:

By the end of the course, students will:

1. Explain core concepts of growth and development and pediatric disorders using evidence-based guidelines.
2. Utilize knowledge in various clinical settings, including emergencies.
3. Develop history-taking and communication skills for dealing with this age group.
4. Demonstrate clinical examination skills.
5. Perform clinical procedures safely.
6. Describe health maintenance and preventive care for children, including nutrition and vaccination.
7. Cultivate rational thinking and engage students in research activities.
8. Instill values of medical ethics and morality.

Outcomes:

By the end of the program, students should be able to:

1. Demonstrate an in-depth understanding of important pediatric diseases.
2. Differentiate between normal and diseased states in this age group.
3. Develop management plans for common pediatric ailments.
4. Practice evidence-based medicine for pediatric conditions.
5. Analyze data and formulate differential diagnoses.
6. Identify pediatric emergencies and provide basic care.
7. Demonstrate skills in history-taking and clinical examination.
8. Counsel families and provide psychosocial support.
9. Perform clinical procedures.
10. Conduct research activities.
11. Apply principles of medical ethics.

Textbooks & References:

1. Nelson Textbook of Pediatrics
2. Basis of Pediatrics by Pervaiz Akbar
3. Clinical Methods by Wayne Harris

4. Neonatology by Tricia Lacy Gomella

Course Title: Psychiatry
Teaching hours: 156
Course Description: Psychiatry is a vital specialty dealing with mental health, crucial for overall well-being. With about 14% of the global disease burden attributed to neuropsychiatric disorders, this course provides insights into effectively managing psychiatric patients.
Textbooks & References:

1. Oxford Textbook of Medicine
2. Kumar and Clark's Medicine
3. Davidson's Principles and Practice of Medicine
4. Behavioral Science by Prof. Mowadat H Rana
5. Oxford Textbook of Psychiatry
6. Macleod's Clinical Examination
7. Nicholas Talley's Clinical Examination

Course Title: Surgery
Teaching hours: 603
Course Description: This course covers principles and practices in treating injuries, diseases, and deformities through physical removal, repair, or adjustment of organs and tissues.
Objectives:

1. Learn commonly performed operations such as appendicectomy, cholecystectomy (open & lap), hernioplasty, hydrocele, and hemorrhoidectomy through lectures and practical demonstrations.
2. Understand wound infection, antibiotics in surgery, and postoperative complications through lectures and practical bedside demonstrations.

Textbooks & References:

1. Bailey & Love's Short Practice of Surgery - 27th Edition
2. Kirk General Surgical Operations - 6th Edition
3. Farquharson's Textbook of Operative Surgery - 9th Edition

Course Title: Gynecology & Obstetrics
Teaching hours: 315
Course Description: This comprehensive course spans three years and covers lectures and clinical teaching in ward rounds, bedside teaching, problem-based learning, and case presentations. Students gain firsthand experience in pre-op, intra-op, and post-op care, with a focus on saving maternal and neonatal lives through evidence-based care.
Objectives:
By the end of the course, students will:

1. Gain comprehensive knowledge of the reproductive system and common diseases.
2. Provide safe antenatal, intrapartum, and postnatal care, including pre-conceptional counseling.
3. Triage and refer high-risk pregnancies.

4. Diagnose and manage obstetrical emergencies.
5. Develop effective communication and managerial skills.
6. Incorporate medical ethics into practice.
7. Participate in and conduct research.
8. Work as an efficient team leader and member.

Outcomes:

Students who complete this course will:

1. Provide safe antenatal and postnatal care.
2. Offer gynecological and reproductive health care.
3. Deliver competent emergency care.
4. Demonstrate effective management and administration.
5. Perform minor obstetrical/gynecological procedures.
6. Exhibit strong counseling and communication skills.
7. Provide patient-centered care in obstetrics and gynecology.
8. Be a good leader and team member.
9. Understand common instruments used in basic obstetric and gynecological procedures.

Textbooks & References:

1. Ten Teachers Gynae/Obstetrics
2. Textbook of Gynaecology by Rashid Latif
3. Dewhurst's Textbook of Gynaecology/Obstetrics
4. Oxford Handbook of Gynae/Obs
5. Macleod's Clinical Examination

Course Title: Orthopedics & Trauma
Teaching hours: 101

Course Description: Orthopedic surgery addresses the management of musculoskeletal system injuries and illnesses. The curriculum emphasizes integrating clinical, laboratory, and radiological methods to diagnose common conditions.

Objectives:

By the end of the course, students will:

1. Develop comprehensive knowledge of the musculoskeletal system.
2. Achieve competence in addressing musculoskeletal issues.
3. Promote pattern recognition and problem-solving in fracture treatment.
4. Adopt evidence-based approaches.
5. Use simulation for skill assessment.

Outcomes:

Students who complete this course will:

1. Bridge the knowledge gap between general physicians and orthopedic surgeons.
2. Standardize attitudes and coping mechanisms in trauma scenarios.
3. Develop safer training strategies for trauma scenarios.
4. Enhance communication and collaboration skills.
5. Obtain and report basic orthopedic patient history.
6. Perform and report basic orthopedic physical examinations.

7. Understand basic science and pathology of orthopedic conditions.
8. Develop differential diagnoses and use diagnostic testing.
9. Know treatment alternatives and their potential complications.
10. Recognize preventative measures for orthopedic conditions.

Textbooks & References:

1. Bailey & Love's Short Practice of Surgery
2. Apley's System of Orthopedics & Fractures - 8th Edition
3. Atlas in Orthopedics
4. Current Surgical Diagnosis & Treatment
5. Clinical Skills for Undergraduates by Abdul Majeed Ch. & Aamer Zaman Khan

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Course Title: Neurosurgery
Teaching hours: 76
Course Description: This course aims to teach core principles and practices in neurosurgery that are essential for all practicing physicians, regardless of their specialty.
Objectives:
By the end of the course, students will:

1. Diagnose common neurosurgical conditions based on history and examination.
2. Develop an investigation plan for neurosurgical conditions.
3. Manage common neurosurgical conditions.
4. Describe criteria for managing head and spine injuries.
5. Prepare patients for elective neurosurgical procedures.
6. Identify common neurosurgical instruments.

Outcomes:
Students who complete this course will:

1. Take a thorough neurosurgical history and perform relevant physical examinations.
2. Interpret common radiological and laboratory investigations.
3. Outline management plans for common neurosurgical conditions.
4. Identify patients requiring immediate intervention in brain and spinal trauma.
5. Enlist preoperative orders for common neurosurgical procedures.
6. Recognize common neurosurgical instruments.

Textbooks & References:

1. Principles of Neurosurgery by Setti Rengachary
2. Handbook of Neurosurgery by Mark S. Greenburg

Course Title: Ophthalmology
Teaching hours: 158
Course Description: Ophthalmology involves studying disorders and diseases of the human eye, covering both medical and surgical aspects. Students will learn to manage minor eye ailments and recognize when to refer patients to specialists.
Objectives:
By the end of the course, students will:

1. Teach sufficient ophthalmology to recognize common eye complaints and emergencies.
2. Enable appropriate action to safeguard patient's vision and overall function.

Outcomes:

Given a presenting eye sign or symptom, students should be able to:

1. Take an accurate history.
2. Perform physical examinations using slit lamp and ophthalmoscope.
3. Differentiate normal from abnormal eye findings.
4. Outline a logical program of investigation and possible management.

Textbooks & References:

1. Parsons Diseases of the Eye
2. Clinical Ophthalmology by Kanski
3. Ophthalmology by Shafi Jatoi

Course Title: Otorhinolaryngology (ENT)
Teaching hours: 152

Course Description: This minor subject covers ENT diseases and is taught through lectures and clinical rotations in the 3rd and 4th years. Students engage in ward bedside, OT, and OPD activities to apply theoretical knowledge.

Objectives:

By the end of the course, students will:

1. Provide safe and effective care.
2. Gather information through history taking, physical examination, and workup.
3. Practice essential medical procedures with up-to-date knowledge.
4. Develop and implement patient management plans.
5. Counsel and educate patients and families.
6. Demonstrate ethical behavior and professional skills.

Outcomes:

By the end of the program, students should be able to:

1. Identify symptoms and signs of ENT diseases.
2. List investigations, differential diagnoses, and treatment plans.
3. Provide counseling, prognosis, and follow-up.

Textbooks & References:

1. Logan Turner's Diseases of the Nose, Throat and Ear - 10th Edition
2. Diseases of Ear, Nose and Throat & Head and Neck Surgery by Dhingra - 7th Ed
3. Oxford Handbook of ENT and Head and Neck Surgery - 3rd Edition
4. Hutchison's Clinical Methods - 24th Edition

Course Title: Radiology
Teaching hours: 26

Course Description: This course focuses on interpreting radiographs, particularly chest X-rays, and understanding common abnormalities and their implications.

Objectives:

1. Identify normal chest radiographs and anatomical structures.
2. Recognize common abnormalities such as cardiomegaly, pericardial effusion, and lung masses.
3. Diagnose conditions through chest X-rays and correlate findings with clinical data.

Textbooks & References:

1. T. S. R. and E. R. Radiology by G. Anderson
2. Radiology for the MRCP - By Syed - 4th Edition

Course Title: Anesthesia
Teaching Hours: 52
Course Description:
This course provides a comprehensive introduction to the principles and practice of anesthesia, critical care, and pain medicine. It covers the fundamentals of preoperative assessment, pharmacology of anesthetic agents, techniques for general and regional anesthesia, intraoperative patient monitoring, and management of postoperative pain and complications. Students will gain exposure to the anesthesiologist's role as a perioperative physician, emphasizing patient safety, physiological stability, and the management of the unconscious patient.

Objectives:
By the end of the course, students will:

1. Understand the pharmacology of intravenous and inhalational anesthetic agents, muscle relaxants, and analgesics.
2. Perform a preoperative anesthetic risk assessment and formulate a basic anesthetic plan.
3. Describe the principles and techniques of airway management, including endotracheal intubation.
4. Explain the monitoring modalities used during anesthesia and their significance.
5. Recognize and outline the initial management of common perioperative emergencies.

Outcomes:
Students who complete this course will:

1. Demonstrate the ability to conduct a structured preoperative evaluation.
2. Identify the equipment used in anesthesia and understand its function.
3. Outline the sequence of induction, maintenance, and emergence from general anesthesia.
4. Discuss the role of regional anesthesia and pain management strategies.
5. Apply knowledge of resuscitation protocols in a simulated clinical setting.

Textbooks & References:

1. Morgan, G. E., Mikhail, M. S., & Murray, M. J. Clinical Anesthesiology. 6th ed. McGraw-Hill.
2. Butterworth, J. F., Mackey, D. C., & Wasnick, J. D. Morgan & Mikhail's Clinical Anesthesiology Cases. 1st ed. McGraw-Hill.
3. Oxford Handbook of Anaesthesia. 5th ed. Oxford University Press.

Course Title: Family Medicine
Teaching Hours: 76

Course Description:
Family Medicine is the cornerstone of primary healthcare, focusing on comprehensive, continuous, and patient-centered care for individuals and families across all ages, genders, and diseases. This course emphasizes the principles of holistic care, health promotion, disease prevention, and the management of common acute and chronic illnesses in an ambulatory setting. Through clinical rotations, students will develop skills in communication, clinical reasoning, and the coordination of care within the community context.

Objectives:
By the end of the course, students will:

1. Develop competence in managing common outpatient medical conditions.
2. Understand the principles of continuity of care, patient advocacy, and the bio-psycho-social model of health.
3. Demonstrate effective communication skills for patient education, counseling, and shared decision-making.
4. Learn to utilize evidence-based guidelines for preventive care and chronic disease management.
5. Recognize the role of the family physician within the broader healthcare system.

Outcomes:
Students who complete this course will:

1. Perform a comprehensive patient-centered consultation in a primary care setting.
2. Formulate differential diagnoses and evidence-based management plans for common presenting complaints.
3. Provide counseling on lifestyle modifications, immunization, and health screening.
4. Demonstrate an understanding of practice management and ethical issues in primary care.
5. Refer patients appropriately to specialist care while maintaining continuity.

Textbooks & References:

1. Rakel, R. E., & Rakel, D. P. Textbook of Family Medicine. 9th ed. Elsevier.
2. Oxford Handbook of General Practice. 5th ed. Oxford University Press.
3. Bickley, L. S. Bates' Guide to Physical Examination and History Taking. 13th ed. Wolters Kluwer.

Course Title: Behavioral Sciences
Teaching Hours: 52
Course Description:
This course explores the intersection of psychology, sociology, and cultural studies with medical practice. It provides a foundational understanding of human behavior, mental health, and the psychological factors influencing health and illness. Key topics include doctor-patient relationships, patient adherence, stress and coping, substance abuse, psychosomatic disorders, and the principles of psychotherapy and counseling. The course aims to equip future physicians with the skills to understand and respond to the emotional and behavioral needs of their patients.

Objectives:
By the end of the course, students will:

1. Understand major psychological theories of development, personality, and behavior.
2. Identify common psychiatric disorders, their presentation, and basic management principles.
3. Develop effective communication skills for breaking bad news, managing difficult interviews, and motivating behavioral change.
4. Analyze the impact of cultural, social, and economic factors on health and healthcare access.
5. Apply ethical principles in situations involving patient autonomy, confidentiality, and consent.

Outcomes:
Students who complete this course will:

1. Elicit a comprehensive psychosocial history from a patient.
2. Demonstrate empathy and use basic counseling techniques in a clinical interaction.
3. Recognize the signs and symptoms of common mental health conditions like depression, anxiety, and substance use disorders.
4. Incorporate an understanding of socio-cultural determinants of health into patient care plans.
5. Uphold the highest standards of professional and ethical conduct in patient interactions.

Textbooks & References:

1. Rana, M. H. Behavioral Sciences - A Guide for Medical Students & Professionals.
2. Kaplan & Sadock's Synopsis of Psychiatry. 12th ed. Wolters Kluwer.
3. The Doctor's Communication Handbook. 9th ed. CRC Press.

Course Title: The PRIME Module
(Professionalism, Research, Identity, Management, Ethics)
Teaching Hours: 216 (Longitudinal, integrated across the final year and the MBBS program)
Course Description:
The PRIME Module is a holistic, capstone program designed to cultivate the core attributes of a physician-scholar and leader. It integrates five critical pillars that are essential for excellence in modern medicine but extend beyond traditional clinical knowledge. This module ensures graduates are not only skilled clinicians but also ethical, self-aware, and innovative professionals ready to lead and improve healthcare systems.

Learning Objectives:
By the end of the PRIME module, students will be able to:

1. Model unwavering accountability, integrity, and commitment to lifelong learning in all professional endeavors.
2. Design, conduct, and disseminate a scholarly project that contributes to medical knowledge.
3. Articulate a mature professional identity, integrating personal values with the duties and virtues of a physician.
4. Apply principles of leadership, quality improvement, and resource management within healthcare teams.
5. Navigate complex clinical ethical dilemmas using a structured framework grounded in universal principles and cultural context.

Outcomes:
Upon completion of the PRIME module, students will be able to:

1. Maintain a reflective portfolio demonstrating professional growth and a sustainable approach to personal well-being.
2. Submit a manuscript from their independent research to a peer-reviewed journal or present findings at a scholarly forum.
3. Confidently articulate their professional narrative and values, demonstrating resilience and a patient-centered approach in complex clinical situations.
4. Develop and lead a Quality Improvement (QI) initiative and function effectively as both a leader and a member of a multidisciplinary team.
5. Analyze a complex clinical case and present a justified ethical decision, respecting both philosophical principles and patient beliefs.

Textbooks & References:

1. The Good Doctor: A Physician's Guide to Transforming Health Care by J. K. Patel.
2. Cruess, R. L., Cruess, S. R., & Steinert, Y. Teaching Medical Professionalism.
3. How to Read a Paper: The Basics of Evidence-Based Medicine and Healthcare by Trisha Greenhalgh.
4. AMA Manual of Style: A Guide for Authors and Editors.
5. The Physician's Odyssey: Reflections on Medical Training and Practice by S. M. K. Chisti.
6. On Becoming a Doctor: The Journey from Student to Specialist by T. Manning.
7. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance by Langley et al.
8. Crucial Conversations: Tools for Talking When Stakes Are High by Patterson et al.
9. Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine by Jonsen, Siegler, & Winslade.
10. Islamic Medical Ethics: Theory and Practice

Course Title: Quran Kareem
Teaching Hours: 50 hours, delivered weekly throughout the first three years.
Course Description:
This longitudinal course offers a structured study of the Holy Quran, focusing on correct recitation (Tajweed), understanding the meanings (Tafsir) of selected Surahs, and reflecting upon its ethical and spiritual teachings. The course is designed to provide a moral and spiritual compass for students, helping them connect the timeless guidance of the Quran with the ethical challenges and compassionate service inherent to the medical profession.

Objectives:
By the end of the course, students will:

1. Recite selected verses of the Holy Quran with proper pronunciation and Tajweed rules.
2. Comprehend the core messages and themes of the chapters studied.
3. Relate the ethical and moral teachings of the Quran to principles of medical ethics and patient care.
4. Reflect on the concepts of healing, compassion, and justice as presented in the Quran.

Outcomes:
Students who complete this course will:

1. Demonstrate improved fluency and accuracy in the recitation of the Quran.

2. Articulate how Islamic principles inform ethical decision-making in clinical practice.
3. Exhibit enhanced empathy, integrity, and professionalism in their conduct, grounded in spiritual values.
4. Develop a personal framework for maintaining spiritual well-being amidst the demands of a medical career.

Textbooks & References:

1. The Holy Quran (Arabic Text with Urdu/English Translation and Commentary).
2. Maududi, S. A. A. Towards Understanding the Quran.
3. Ali, A. Y. The Meaning of the Holy Qur'an.

Course Title: Pakistan Studies / Islamiat
Teaching Hours: 25 hours combined delivered on alternate weeks throughout the second year.
Course Description:
This combined course provides students with essential knowledge of Pakistan's ideological, historical, and political context (Pakistan Studies) alongside the fundamental beliefs, practices, and history of Islam (Islamiat). It aims to foster a sense of informed national identity and civic responsibility while providing a deeper understanding of the Islamic ethical framework that shapes the society in which they will practice medicine.

Objectives:
By the end of the course, students will:

1. (Pakistan Studies) Trace the history of the Pakistan Movement, understand the constitutional framework, and analyze contemporary challenges.
2. (Islamiat) Explain the fundamental beliefs (Aqeedah), pillars (Arkan), and practices of Islam, and the life of the Prophet Muhammad (PBUH).
3. Discuss the contributions of Muslim scholars to civilization and science.
4. Analyze the role of ethical values derived from Islamic and Pakistani ideology in community leadership and public health.

Outcomes:
Students who complete this course will:

1. Articulate an informed perspective on Pakistani nationhood and its relevance to their role as community physicians.
2. Demonstrate an understanding of core Islamic teachings and their application to personal and professional life.
3. Critically appraise the socio-cultural and ideological factors that influence health and healthcare delivery in Pakistan.
4. Uphold the values of tolerance, social justice, and service to the community.

Textbooks & References:

1. (Pak Studies) Pakistan Studies by M. Ikram Rabbani.
2. (Pak Studies) The Struggle for Pakistan by I.H. Qureshi.
3. (Islamiat) Introduction to Islam by Dr. Hamidullah.
4. (Islamiat) The Sealed Nectar (Ar-Raheeq Al-Makhtum) by Safi-ur-Rahman al-Mubarkpuri.

Course Title: English Expository Writing
Teaching Hours: 25 hours, distributed across the third year.
Course Description:
This is a practical, skills-based course designed to equip medical students with the advanced written communication skills required for academic and professional success. It focuses on clarity, precision, and structure in professional writing, covering essential genres such as patient case notes, referral letters, literature summaries, and research abstracts. The course emphasizes the importance of accurate and effective written communication in ensuring patient safety and professional collaboration.

Objectives:
By the end of the course, students will:

1. Employ clear, concise, and professional language in medical writing.
2. Structure and compose coherent and accurate clinical documentation.
3. Summarize and critique medical literature effectively.
4. Apply advanced principles of grammar, punctuation, and style to enhance readability and avoid ambiguity.

Outcomes:
Students who complete this course will:

1. Produce well-structured, precise, and professional patient case histories and referral letters.
2. Write a structured abstract and summary of a medical journal article.
3. Demonstrate competence in avoiding common errors in medical documentation.
4. Communicate complex medical information in writing with clarity and accuracy.

Textbooks & References:

1. Strunk, W., & White, E. B. The Elements of Style. 4th ed. Pearson.
2. AMA Manual of Style: A Guide for Authors and Editors. 11th ed. Oxford University Press.
3. Greenhalgh, T. How to Read a Paper: The Basics of Evidence-Based Medicine and Healthcare. 6th ed. Wiley-Blackwell.

Course Title: Arts & Humanities
Teaching Hours: 25 hours, distributed across the fourth year.
Course Description:
This innovative course integrates perspectives from literature, philosophy, ethics, and the visual and performing arts into the medical curriculum. It uses narratives of illness, works of art, and philosophical texts to explore the human dimensions of sickness, healing, suffering, and compassion. The course aims to cultivate empathy, moral reasoning, and self-reflection in future physicians, counterbalancing the technical focus of clinical training and fostering a more holistic, patient-centered approach to care.

Objectives:
By the end of the course, students will:

1. Analyze how narratives and art represent the experiences of patients and physicians.
2. Discuss complex ethical dilemmas in medicine using frameworks from the humanities.
3. Reflect on their own professional identity, biases, and responses to suffering.

4. Explore the role of creativity, resilience, and self-care in preventing burnout.

Outcomes:
Students who complete this course will:

1. Demonstrate enhanced empathy and narrative competence in understanding patient experiences.
2. Articulate a more nuanced and humanistic perspective on health, illness, and the doctor-patient relationship.
3. Engage in reflective practice to process clinical experiences and promote personal well-being.
4. Apply insights from the arts and humanities to communicate more effectively and compassionately with patients and colleagues.

Textbooks & References:

1. Kleinman, A. The Illness Narratives: Suffering, Healing, and the Human Condition. Basic Books.
2. Sacks, O. The Man Who Mistook His Wife for a Hat and Other Clinical Tales. Touchstone.
3. Charon, R. Narrative Medicine: Honoring the Stories of Illness. Oxford University Press.
4. Selected works of literature, film, and art (e.g., Wit by Margaret Edson).

Curriculum Hour Distribution & Evaluation
The allocation of teaching hours across the MBBS program cited above is meticulously structured in full compliance with the guidelines stipulated by the PMDC and the HEC of Pakistan.

The definitive source for the proposed distribution is the comprehensive set of study guides ***(APPENDIX 1-33)*** issued by our accrediting university, KMU. A systematic analysis of these modules has been conducted to calculate the initial year-wise and subject-wise breakdown of instructional hours, below table, detailed in ***APPENDIX 35.***

Consolidated MBBS Hours (All Years)

Subject	Year 1	Year 2	Year 3	Year 4	Year 5	**Total**
ANATOMY	**335**	**303**	**22**	**27**	**22**	**709**
• Gross Anatomy	241	174	22	27	22	486
• Embryology	63	65	-	-	-	128
• Histology	31	64	-	-	-	95
PHYSIOLOGY	143	323	36	10	-	**512**
BIOCHEMISTRY	112	145	3	2	-	**262**
PATHOLOGY	24	16	204	245	-	**489**
MICROBIOLOGY	-	-	16	-	-	**16**
PHARMACOLOGY	14	14	76	198	-	**302**
COMMUNITY MEDICINE	27	17	46	116	-	**206**
• Core Community Medicine	27	17	29	116	-	189

• Community Medicine (Research)	-	-	17	-	-	17
FORENSIC MEDICINE	23	9	52	127	-	**211**
BEHAVIORAL SCIENCES	-	-	-	52	-	**52**
PRIME	**20**	**33**	**74**	**60**	**29**	**216**
• PRIME (Research)	5	8	28	35	16	92
• PRIME (IT Skills)	5	5	13	5	-	28
• PRIME (Leadership)	2	7	7	7	4	27
• PRIME (Professionalism)	2	7	8	-	8	25
• PRIME (Communication Skills)	3	3	12	6	2	26
• PRIME (Ethics)	3	3	6	7	9	28
MEDICINE	**13**	**24**	**33**	**230**	**302**	**602**
• General Medicine	13	24	33	-	-	70
• Internal Medicine	-	-	-	230	302	532
SURGERY	**11**	**7**	**79**	**219**	**287**	**603**
• General Surgery	11	7	-	-	-	18
• Systemic Surgery	-	-	79	219	287	585
PEDIATRICS	-	13	37	100	151	**301**
GYNAECOLOGY & OBSTETRICS	-	**1**	-	**151**	**163**	**315**
PSYCHIATRY	-	-	-	91	65	**156**
OPHTHALMOLOGY (Eye)	25	22	31	-	80	**158**
ENT	25	24	23	80	-	**152**
ANESTHESIA	-	-	-	22	30	**52**
RADIOLOGY	2	10	6	6	2	**26**
FAMILY MEDICINE	-	-	26	29	21	**76**
NEUROLOGY	-	30	-	20	25	**75**
NEUROSURGERY	-	32	-	23	21	**76**
CARDIOLOGY	5	-	16	-	30	**51**
CARDIAC SURGERY	5	-	15	-	-	**20**
PULMONOLOGY	5	-	15	-	33	**53**
ORTHOPEDICS	-	-	18	31	52	**101**
DERMATOLOGY	2	-	13	-	40	**55**
PLASTIC SURGERY	5	9	24	10	20	**68**
UROLOGY	-	17	-	32	31	**80**
NEPHROLOGY	-	17	-	15	35	**67**
ENDOCRINOLOGY	-	20	-	40	15	**75**
GASTROENTEROLOGY	-	6	-	19	27	**52**

INFECTIOUS DISEASE	-	-	-	77	-	**77**
INFECTIOUS CONTROL	-	-	-	26	-	**26**
EMERGENCY MEDICINE					25	**25**
PEDIATRIC SURGERY	-	2	-	-	5	**7**
ONCOLOGY	-	-	8	9	10	**27**
Yearly Total	**796**	**1094**	**873**	**2067**	**1521**	**6351**

Teaching hours of the following are not included in the given table, but year-wise distribution is shown somewhere else.

Distribution of Non-Medical Subjects & Extracurricular Activities

Course Hours:

- Quran Kareem: 50 hours, delivered weekly throughout the first three years.
- Pakistan Studies / Islamiat: 50 hours combined (25 hours each), delivered on alternate weeks throughout the second year.
- English Expository Writing: 25 hours, distributed across the third year.
- Arts & Humanities: 25 hours, distributed across the fourth year.

Extracurricular Activities:

A total of 200 hours are dedicated to mandatory extracurricular activities, which include a structured program of:

- Annual Sports Gala (one week)
- Cultural Shows (three days)
- Camping (two days)
- Hiking (one day)
- Student Conferences

To ensure continuous alignment and evidence-based curriculum management, the Department of Medical Education, through the Curriculum Committee, will conduct a formal review upon the graduation of the first MBBS cohort. This review will involve a precise calculation of actually delivered instructional hours, derived from the official timetables of each module and subject across all five years.

This vital exercise for ongoing quality assurance is governed by the officially approved "Curricular Evaluation Plan," which is attached as ***APPENDIX 36.*** This process ensures that the curriculum remains a dynamic and accurately documented entity, responsive to the actual educational delivery.

14 CLINICAL ROTATIONS & CLERKSHIPS

Introduction

The clinical rotation component of the MBBS program, commencing in the third year and intensifying through the fourth and final (PRIME) years, represents the essential transition from theoretical knowledge to practical, hands-on patient care. This phased, immersive experience is the cornerstone of clinical education, designed to transform students from observers into active participants in the healthcare team. Under the guidance of experienced faculty and clinicians, students rotate through various specialties in affiliated hospitals, applying their knowledge in real-world settings, developing clinical reasoning, and honing the professional attitudes required of a competent physician.

Rationale

The structure and scope of our clinical rotations are meticulously designed to meet and exceed the stringent requirements set forth by the Pakistan Medical and Dental Council (PMDC). The PMDC mandates a robust clinical training program that ensures graduates are competent in clinical skills, patient management, and professional ethics before entering practice.

Our clinical rotation program is built upon the following PMDC-aligned principles:
Progressive Responsibility: The curriculum is designed to gradually increase clinical exposure and responsibility, moving from introductory clinical postings in the 3rd year to supervised, hands-on patient management in the PRIME Year, as per PMDC's emphasis on structured, progressive learning.

Comprehensive Clinical Material: PMDC requires students to be exposed to a wide range of pathologies and patient populations. Our rotations across the two affiliated hospitals—Valley Medical Center (200 beds) and AlFalah International Hospital (300 beds)—provide a combined 500-bed capacity, ensuring extensive and diverse clinical material across all major specialties, including Medicine, Surgery, Pediatrics, Obstetrics & Gynecology, and other critical disciplines.

Supervised Hands-On Experience: The program mandates direct supervision and mentoring, fulfilling the PMDC's requirement for guided clinical practice. This is achieved through bedside teaching, small group tutorials, and the "Tiered Responsibility Model" implemented during the PRIME Year clerkships.

Integration of Core Competencies: The rotations are not merely service-based but are structured educational experiences that integrate the core competencies of Medical Knowledge, Patient Care, Communication Skills, Professionalism, and Systems-Based Practice, as outlined in PMDC's framework for undergraduate medical education.

Affiliated Teaching Hospitals

The clinical training for students of the College of Medicine and Dentistry at the Hills is conducted at two premier healthcare institutions, providing a total of 500 beds for comprehensive clinical exposure:

Valley Medical Center (200 Beds): Serves as a primary teaching hospital, offering a broad range of general medical and surgical services. It provides a strong foundation in managing common health conditions in a community hospital setting.

AlFalah International Hospital (300 Beds): A tertiary care facility that provides exposure to complex cases, advanced diagnostic modalities, and specialized surgical procedures. This rotation ensures students experience the management of intricate and referral-level pathologies.

Together, these hospitals provide a complete ecosystem for medical training, from primary to tertiary care.

Year-Wise Clinical Rota

To ensure personalized attention and a meaningful learning experience, each class from the 3rd year onwards is divided into manageable groups or batches. These groups rotate through different clinical postings according to a pre-defined, structured schedule. The following is a representative model of the year-wise rota:

Year 3: Foundation in Clinical Practice

Focus: Introduction to history-taking, physical examination, and core clinical skills. Understanding the hospital environment and the role of a medical student.

COLLEGE OF MEDICINE AND DENTISTRY AT THE HILLS, ABBOTTABAD
DEPARTMENT OF MEDICAL EDUCATION
3rd Year MBBS Clinical Clerkship / Ward Duties Time Table for the Session 2025-26

Complete Clinical Clerkship Schedule (All Departments)

	Date Range (From - To)	Medical A	Medical B	Surgical A	Surgical B	ENT	Eye	Gynae	Paeds	Cardiology/ CCU	Pulmonology	Forensic Medicine	Pathology	Rheumatology	Dermatology
1	19-Feb-24 to 25-Feb-24	Group 1 (A)	Group 2 (A)	Group 3 (A)	Group 4 (A)	Group 7 (B)	Group 9 (B)	Group 11 (C)	Group 13 (C)	Group 15 (C)	Group 16 (D)	Group 17 (D)	Group 18 (D)	Group 19 (D)	Group 20 (D)
2	26-Feb-24 to 03-Mar-24	Group 2 (A)	Group 3 (A)	Group 4 (A)	Group 5 (A)	Group 8 (B)	Group 10 (B)	Group 12 (C)	Group 14 (C)	Group 16 (D)	Group 17 (D)	Group 18 (D)	Group 19 (D)	Group 20 (D)	Group 1 (A)
3	04-Mar-24 to 10-Mar-24	Group 3 (A)	Group 4 (A)	Group 5 (A)	Group 6 (B)	Group 9 (B)	Group 11 (C)	Group 13 (C)	Group 15 (C)	Group 17 (D)	Group 18 (D)	Group 19 (D)	Group 20 (D)	Group 1 (A)	Group 2 (A)
4	11-Mar-24 to 17-Mar-24	Group 4 (A)	Group 5 (A)	Group 6 (B)	Group 7 (B)	Group 10 (B)	Group 12 (C)	Group 14 (C)	Group 16 (D)	Group 18 (D)	Group 19 (D)	Group 20 (D)	Group 1 (A)	Group 2 (A)	Group 3 (A)
5	18-Mar-24 to 24-Mar-24	Group 5 (A)	Group 6 (B)	Group 7 (B)	Group 8 (B)	Group 11 (C)	Group 13 (C)	Group 15 (C)	Group 17 (D)	Group 19 (D)	Group 20 (D)	Group 1 (A)	Group 2 (A)	Group 3 (A)	Group 4 (A)
6	25-Mar-24 to 31-Mar-24	Group 6 (B)	Group 7 (B)	Group 8 (B)	Group 9 (B)	Group 12 (C)	Group 14 (C)	Group 16 (D)	Group 18 (D)	Group 20 (D)	Group 1 (A)	Group 2 (A)	Group 3 (A)	Group 4 (A)	Group 5 (A)
7	01-Apr-24 to 07-Apr-24	Group 7 (B)	Group 8 (B)	Group 9 (B)	Group 10 (B)	Group 13 (C)	Group 15 (C)	Group 17 (D)	Group 19 (D)	Group 1 (A)	Group 2 (A)	Group 3 (A)	Group 4 (A)	Group 5 (A)	Group 6 (B)
8	08-Apr-24 to 14-Apr-24	Group 8 (B)	Group 9 (B)	Group 10 (B)	Group 11 (C)	Group 14 (C)	Group 16 (D)	Group 18 (D)	Group 20 (D)	Group 2 (A)	Group 3 (A)	Group 4 (A)	Group 5 (A)	Group 6 (B)	Group 7 (B)
9	15-Apr-24 to 21-Apr-24	Group 9 (B)	Group 10 (B)	Group 11 (C)	Group 12 (C)	Group 15 (C)	Group 17 (D)	Group 19 (D)	Group 1 (A)	Group 3 (A)	Group 4 (A)	Group 5 (A)	Group 6 (B)	Group 7 (B)	Group 8 (B)
10	22-Apr-24 to 28-Apr-24	Group 10 (B)	Group 11 (C)	Group 12 (C)	Group 13 (C)	Group 16 (D)	Group 18 (D)	Group 20 (D)	Group 2 (A)	Group 4 (A)	Group 5 (A)	Group 6 (B)	Group 7 (B)	Group 8 (B)	Group 9 (B)
11	29-Apr-24 to 05-May-24	Group 11 (C)	Group 12 (C)	Group 13 (C)	Group 14 (C)	Group 17 (D)	Group 19 (D)	Group 1 (A)	Group 3 (A)	Group 5 (A)	Group 6 (B)	Group 7 (B)	Group 8 (B)	Group 9 (B)	Group 10 (B)
12	06-May-24 to 12-May-24	Group 12 (C)	Group 13 (C)	Group 14 (C)	Group 15 (C)	Group 18 (D)	Group 20 (D)	Group 2 (A)	Group 4 (A)	Group 6 (B)	Group 7 (B)	Group 8 (B)	Group 9 (B)	Group 10 (B)	Group 11 (C)
13	13-May-24 to 19-May-24	Group 13 (C)	Group 14 (C)	Group 15 (C)	Group 16 (D)	Group 19 (D)	Group 1 (A)	Group 3 (A)	Group 5 (A)	Group 7 (B)	Group 8 (B)	Group 9 (B)	Group 10 (B)	Group 11 (C)	Group 12 (C)
14	20-May-24 to 26-May-24	Group 14 (C)	Group 15 (C)	Group 16 (D)	Group 17 (D)	Group 20 (D)	Group 2 (A)	Group 4 (A)	Group 6 (B)	Group 8 (B)	Group 9 (B)	Group 10 (B)	Group 11 (C)	Group 12 (C)	Group 13 (C)
15	27-May-24 to 02-Jun-24	Group 15 (C)	Group 16 (D)	Group 17 (D)	Group 18 (D)	Group 1 (A)	Group 3 (A)	Group 5 (A)	Group 7 (B)	Group 9 (B)	Group 10 (B)	Group 11 (C)	Group 12 (C)	Group 13 (C)	Group 14 (C)
16	03-Jun-24 to 09-Jun-24	Group 16 (D)	Group 17 (D)	Group 18 (D)	Group 19 (D)	Group 2 (A)	Group 4 (A)	Group 6 (B)	Group 8 (B)	Group 10 (B)	Group 11 (C)	Group 12 (C)	Group 13 (C)	Group 14 (C)	Group 15 (C)
17	10-Jun-24 to 16-Jun-24	Group 17 (D)	Group 18 (D)	Group 19 (D)	Group 20 (D)	Group 3 (A)	Group 5 (A)	Group 7 (B)	Group 9 (B)	Group 11 (C)	Group 12 (C)	Group 13 (C)	Group 14 (C)	Group 15 (C)	Group 16 (D)
18	17-Jun-24 to 23-Jun-24	Group 18 (D)	Group 19 (D)	Group 20 (D)	Group 1 (A)	Group 4 (A)	Group 6 (B)	Group 8 (B)	Group 10 (B)	Group 12 (C)	Group 13 (C)	Group 14 (C)	Group 15 (C)	Group 16 (D)	Group 17 (D)
19	24-Jun-24 to 30-Jun-24	Group 19 (D)	Group 20 (D)	Group 1 (A)	Group 2 (A)	Group 5 (A)	Group 7 (B)	Group 9 (B)	Group 11 (C)	Group 13 (C)	Group 14 (C)	Group 15 (C)	Group 16 (D)	Group 17 (D)	Group 18 (D)
20	01-Jul-24 to 07-Jul-24	Group 20 (D)	Group 1 (A)	Group 2 (A)	Group 3 (A)	Group 6 (B)	Group 8 (B)	Group 10 (B)	Group 12 (C)	Group 14 (C)	Group 15 (C)	Group 16 (D)	Group 17 (D)	Group 18 (D)	Group 19 (D)

Batch Key:

- **Batch A:** Roll Numbers 1-25 (Groups 1, 2, 3, 4, 5)
- **Batch B:** Roll Numbers 26-50 (Groups 6, 7, 8, 9, 10)
- **Batch C:** Roll Numbers 51-75 (Groups 11, 12, 13, 14, 15)
- **Batch D:** Roll Numbers 76-100 (Groups 16, 17, 18, 19, 20)

How to use this table:

1. Find your roll number and determine your **Batch (A, B, C, or D)**.
2. Find the **Group Number** associated with your batch.
3. For any given date range, find your Group Number in the table to see your assigned department.
4. For example, a student with roll number 30 is in **Batch B**, which corresponds to **Groups 6, 7, 8, 9, 10**. During the rotation from **07-Feb-24 to 14-Feb-24**, this student would be in the **Surgical A** unit (Group 6).
5. Every 10 AM-1 PM, Monday, Tuesday, Wednesday, Thursday, Saturday.

Year 4: System-Based Specialties

Focus: In-depth exposure to major clinical specialties and their sub-disciplines. Developing diagnostic acumen and initial management plans.

COLLEGE OF MEDICINE AND DENTISTRY AT THE HILLS, ABBOTTABAD
DEPARTMENT OF MEDICAL EDUCATION
4th Year MBBS Clinical Clerkship / Ward Duties Time Table for the Session 2025-26

Complete Clinical Clerkship Schedule (All Departments)

	Date Range (From - To)	Medical A	Medical B	Surgical A	Surgical B	ENT	Eye	Gynae	C/Med	Peads	Urology/Pl.Surgery	ER Medicine	Neurosurgery	Gastro/Nephro	Psychiatry
1	19-Feb-24 to 25-Feb-24	Group 1 (A)	Group 2 (A)	Group 3 (A)	Group 4 (A)	Group 7 (B)	Group 9 (B)	Group 11 (C)	Group 13 (C)	Group 15 (C)	Group 16 (D)	Group 17 (D)	Group 18 (D)	Group 19 (D)	Group 20 (D)
2	26-Feb-24 to 03-Mar-24	Group 2 (A)	Group 3 (A)	Group 4 (A)	Group 5 (A)	Group 8 (B)	Group 10 (B)	Group 12 (C)	Group 14 (C)	Group 16 (D)	Group 17 (D)	Group 18 (D)	Group 19 (D)	Group 20 (D)	Group 1 (A)
3	04-Mar-24 to 10-Mar-24	Group 3 (A)	Group 4 (A)	Group 5 (A)	Group 6 (B)	Group 9 (B)	Group 11 (C)	Group 13 (C)	Group 15 (C)	Group 17 (D)	Group 18 (D)	Group 19 (D)	Group 20 (D)	Group 1 (A)	Group 2 (A)
4	11-Mar-24 to 17-Mar-24	Group 4 (A)	Group 5 (A)	Group 6 (B)	Group 7 (B)	Group 10 (B)	Group 12 (C)	Group 14 (C)	Group 16 (D)	Group 18 (D)	Group 19 (D)	Group 20 (D)	Group 1 (A)	Group 2 (A)	Group 3 (A)
5	18-Mar-24 to 24-Mar-24	Group 5 (A)	Group 6 (B)	Group 7 (B)	Group 8 (B)	Group 11 (C)	Group 13 (C)	Group 15 (C)	Group 17 (D)	Group 19 (D)	Group 20 (D)	Group 1 (A)	Group 2 (A)	Group 3 (A)	Group 4 (A)
6	25-Mar-24 to 31-Mar-24	Group 6 (B)	Group 7 (B)	Group 8 (B)	Group 9 (B)	Group 12 (C)	Group 14 (C)	Group 16 (D)	Group 18 (D)	Group 20 (D)	Group 1 (A)	Group 2 (A)	Group 3 (A)	Group 4 (A)	Group 5 (A)
7	01-Apr-24 to 07-Apr-24	Group 7 (B)	Group 8 (B)	Group 9 (B)	Group 10 (B)	Group 13 (C)	Group 15 (C)	Group 17 (D)	Group 19 (D)	Group 1 (A)	Group 2 (A)	Group 3 (A)	Group 4 (A)	Group 5 (A)	Group 6 (B)
8	08-Apr-24 to 14-Apr-24	Group 8 (B)	Group 9 (B)	Group 10 (B)	Group 11 (C)	Group 14 (C)	Group 16 (D)	Group 18 (D)	Group 20 (D)	Group 2 (A)	Group 3 (A)	Group 4 (A)	Group 5 (A)	Group 6 (B)	Group 7 (B)
9	15-Apr-24 to 21-Apr-24	Group 9 (B)	Group 10 (B)	Group 11 (C)	Group 12 (C)	Group 15 (C)	Group 17 (D)	Group 19 (D)	Group 1 (A)	Group 3 (A)	Group 4 (A)	Group 5 (A)	Group 6 (B)	Group 7 (B)	Group 8 (B)
10	22-Apr-24 to 28-Apr-24	Group 10 (B)	Group 11 (C)	Group 12 (C)	Group 13 (C)	Group 16 (D)	Group 18 (D)	Group 20 (D)	Group 2 (A)	Group 4 (A)	Group 5 (A)	Group 6 (B)	Group 7 (B)	Group 8 (B)	Group 9 (B)
11	29-Apr-24 to 05-May-24	Group 11 (C)	Group 12 (C)	Group 13 (C)	Group 14 (C)	Group 17 (D)	Group 19 (D)	Group 1 (A)	Group 3 (A)	Group 5 (A)	Group 6 (B)	Group 7 (B)	Group 8 (B)	Group 9 (B)	Group 10 (B)
12	06-May-24 to 12-May-24	Group 12 (C)	Group 13 (C)	Group 14 (C)	Group 15 (C)	Group 18 (D)	Group 20 (D)	Group 2 (A)	Group 4 (A)	Group 6 (B)	Group 7 (B)	Group 8 (B)	Group 9 (B)	Group 10 (B)	Group 11 (C)
13	13-May-24 to 19-May-24	Group 13 (C)	Group 14 (C)	Group 15 (C)	Group 16 (D)	Group 19 (D)	Group 1 (A)	Group 3 (A)	Group 5 (A)	Group 7 (B)	Group 8 (B)	Group 9 (B)	Group 10 (B)	Group 11 (C)	Group 12 (C)
14	20-May-24 to 26-May-24	Group 14 (C)	Group 15 (C)	Group 16 (D)	Group 17 (D)	Group 20 (D)	Group 2 (A)	Group 4 (A)	Group 6 (B)	Group 8 (B)	Group 9 (B)	Group 10 (B)	Group 11 (C)	Group 12 (C)	Group 13 (C)
15	27-May-24 to 02-Jun-24	Group 15 (C)	Group 16 (D)	Group 17 (D)	Group 18 (D)	Group 1 (A)	Group 3 (A)	Group 5 (A)	Group 7 (B)	Group 9 (B)	Group 10 (B)	Group 11 (C)	Group 12 (C)	Group 13 (C)	Group 14 (C)
16	03-Jun-24 to 09-Jun-24	Group 16 (D)	Group 17 (D)	Group 18 (D)	Group 19 (D)	Group 2 (A)	Group 4 (A)	Group 6 (B)	Group 8 (B)	Group 10 (B)	Group 11 (C)	Group 12 (C)	Group 13 (C)	Group 14 (C)	Group 15 (C)
17	10-Jun-24 to 16-Jun-24	Group 17 (D)	Group 18 (D)	Group 19 (D)	Group 20 (D)	Group 3 (A)	Group 5 (A)	Group 7 (B)	Group 9 (B)	Group 11 (C)	Group 12 (C)	Group 13 (C)	Group 14 (C)	Group 15 (C)	Group 16 (D)
18	17-Jun-24 to 23-Jun-24	Group 18 (D)	Group 19 (D)	Group 20 (D)	Group 1 (A)	Group 4 (A)	Group 6 (B)	Group 8 (B)	Group 10 (B)	Group 12 (C)	Group 13 (C)	Group 14 (C)	Group 15 (C)	Group 16 (D)	Group 17 (D)
19	24-Jun-24 to 30-Jun-24	Group 19 (D)	Group 20 (D)	Group 1 (A)	Group 2 (A)	Group 5 (A)	Group 7 (B)	Group 9 (B)	Group 11 (C)	Group 13 (C)	Group 14 (C)	Group 15 (C)	Group 16 (D)	Group 17 (D)	Group 18 (D)
20	01-Jul-24 to 07-Jul-24	Group 20 (D)	Group 1 (A)	Group 2 (A)	Group 3 (A)	Group 6 (B)	Group 8 (B)	Group 10 (B)	Group 12 (C)	Group 14 (C)	Group 15 (C)	Group 16 (D)	Group 17 (D)	Group 18 (D)	Group 19 (D)

Batch Key:
- **Batch A:** Roll Numbers 1-25 (Groups 1, 2, 3, 4, 5)
- **Batch B:** Roll Numbers 26-50 (Groups 6, 7, 8, 9, 10)
- **Batch C:** Roll Numbers 51-75 (Groups 11, 12, 13, 14, 15)
- **Batch D:** Roll Numbers 76-100 (Groups 16, 17, 18, 19, 20)

How to use this table:
1. Find your roll number and determine your **Batch (A, B, C, or D)**.
2. Find the **Group Number** associated with your batch.
3. For any given date range, find your Group Number in the table to see your assigned department.
4. For example, a student with roll number 30 is in **Batch B**, which corresponds to **Groups 6, 7, 8, 9, 10**. During the rotation from **07-Feb-24 to 14-Feb-24**, this student would be in the **Surgical A** unit (Group 6).

Every 10 AM-1 PM, Monday, Tuesday, Wednesday, Thursday, Saturday.

PRIME Year (Year 5): Advanced Clerkships & Electives

Focus: Functioning as an "intern-under-supervision," managing patients with progressive autonomy. The year is dominated by the Clerkship, Electives, and Observership block (MBBS-135).

COLLEGE OF MEDICINE AND DENTISTRY AT THE HILLS, ABBOTTABAD
DEPARTMENT OF MEDICAL EDUCATION
5th Year MBBS Clinical Clerkship / Ward Duties Time Table for the Session 2025-26
Complete Clinical Clerkship Schedule (All Departments)

Week	Date Range	General Medicine & Allied	General Surgery & Allied	Paediatrics	Gynaecology	Eye & ENT	Radio & Anesthesia
1	19-Feb-24 to 25-Feb-24	Batch A	Batch B	Batch C	Batch D		
2	26-Feb-24 to 03-Mar-24	Batch A	Batch B			Batch C | Batch D	
3	04-Mar-24 to 10-Mar-24	Batch A	Batch B				Batch C | Batch D
4	11-Mar-24 to 17-Mar-24			Batch A	Batch B	Batch C | Batch D	
5	18-Mar-24 to 24-Mar-24			Batch A	Batch B		Batch C | Batch D
6	25-Mar-24 to 31-Mar-24	Batch C	Batch D	Batch A	Batch B		
7	01-Apr-24 to 07-Apr-24	Batch C	Batch D			Batch A | Batch B	
8	08-Apr-24 to 14-Apr-24	Batch C	Batch D				Batch A | Batch B
9	15-Apr-24 to 21-Apr-24			Batch C	Batch D	Batch A | Batch B	
10	22-Apr-24 to 28-Apr-24			Batch C	Batch D		Batch A | Batch B
11	29-Apr-24 to 05-May-24	Batch D	Batch A	Batch C	Batch B		
12	06-May-24 to 12-May-24	Batch D	Batch A			Batch C | Batch B	
13	13-May-24 to 19-May-24	Batch D	Batch A				Batch C | Batch B
14	20-May-24 to 26-May-24			Batch D	Batch A	Batch C | Batch B	
15	27-May-24 to 02-Jun-24			Batch D	Batch A		Batch C | Batch B
16	03-Jun-24 to 09-Jun-24	Batch B	Batch C	Batch D	Batch A		
17	10-Jun-24 to 16-Jun-24	Batch B	Batch C			Batch D | Batch A	
18	17-Jun-24 to 23-Jun-24	Batch B	Batch C				Batch D | Batch A
19	24-Jun-24 to 30-Jun-24			Batch B	Batch C	Batch D | Batch A	
20	01-Jul-24 to 07-Jul-24			Batch B	Batch C		Batch D | Batch A

Timing: 10:00 AM - 2:00 PM, Monday to Saturday
Batch Key:
- **Batch A:** Roll Numbers 1-25
- **Batch B:** Roll Numbers 26-50
- **Batch C:** Roll Numbers 51-75
- **Batch D:** Roll Numbers 76-100

Departmental Details
General Medicine & Allied: General Medicine, Cardiology/CCU, Pulmonology, Neurology, Gastro/Nephro
General Surgery & Allied: General Surgery, Neurosurgery, Orthopaedics, Urology
Eye & ENT: Ophthalmology (Eye) and Otorhinolaryngology (ENT) - Batches share the week, typically split as 3 days each.
Radio & Anesthesia: Radiology and Anaesthesiology - Batches share the week, typically split as 3 days each.

How to use this table:
1. Find your **Batch**.
2. Follow your batch across the rows to see your department for each week.
3. Example: A **Batch A** student will be in **General Medicine** from Week 1 to Week 3, then move to **Paediatrics** for Weeks 4 and 5.

Clerkship (Core Mandatory Rotations:

- Internal Medicine
- General Surgery
- Pediatrics
- Obstetrics & Gynecology
- Emergency Medicine
- Electives & Observerships (Specialized Rotations):

Students choose from electives in Cardiology, Orthopedics, Dermatology, Oncology, etc., and undertake observerships in highly specialized fields like Cardiac Surgery or Neurosurgery to explore career interests.

Horizontal Integration: The PRIME Module runs concurrently, focusing on research completion, leadership, and professional development.

Conclusion
This structured, phased approach to clinical rotations ensures that every graduate of the College of Medicine and Dentistry at the Hills is not only PMDC-compliant but is a confident, clinically competent, and ethically grounded physician, fully prepared to undertake the responsibilities of a house officer and future medical leader.

15 LOGBOOK SYSTEM FOR COMPETENCY TRACKING AND REFLECTION

Introduction
A structured logbook system is an integral component of the MBBS curriculum, serving as a comprehensive record of a student's journey from the basic sciences to clinical mastery. These logbooks are designed to track progress, ensure exposure to a defined set of competencies, and foster a habit of reflective practice. They provide a tangible link between theoretical learning, practical skills, and clinical experiences, ensuring that each student meets the rigorous standards set by the institution and the PMDC.

Rationale and Standardization
To ensure consistency and alignment with national standards, the College utilizes professionally developed logbooks that are widely adopted by medical colleges across Pakistan. These pre-formatted logbooks provide a standardized framework for documenting competencies.

The primary purposes of the logbook system are:
- Documentation: To provide verifiable evidence of a student's practical and clinical experiences.
- Formative Assessment: To facilitate ongoing feedback from faculty through tools like the Mini-Clinical Evaluation Exercise (Mini-CEX) and Direct Observation of Procedural Skills (DOPS).
- Self-Directed Learning: To encourage students to take ownership of their learning by identifying achieved competencies and areas needing improvement.
- Reflective Practice: To cultivate the essential habit of self-reflection, enabling students to learn from their experiences and develop professional maturity.

Year-Wise Logbook Implementation

Years 1 & 2: Basic Sciences

In the pre-clinical years, logbooks focus on foundational scientific and early clinical skills.

Subjects: Anatomy, Physiology, Biochemistry, Pathology, Pharmacology.

Content Includes:

- Practicals: Documentation of dissection exercises, histology slide reviews, physiology experiments, and biochemistry lab procedures.
- Small Group Discussions (SGDs) & Problem-Based Learning (PBLs): Records of case discussions, learning objectives, and student contributions.
- Self-Directed Learning (SDL): Logs of topics researched, resources used, and summaries of learning outcomes.
- Early Clinical Exposure (ECE): Initial history-taking and physical examination practice sessions observed by faculty.

A sample of Logbook is attached as ***APPENDIX 39.***

Years 3 & 4: Clinical Rotations

As students enter the clinical years, the logbooks become more complex and patient-centered.

Major Disciplines: Medicine, Surgery, Pediatrics, Obstetrics & Gynecology, Psychiatry, etc.

Content Includes:

- Patient Encounters: A required number of history and physical examinations for common clinical conditions.
- Mini-CEX Evaluations: Structured, direct observations of clinical encounters (e.g., history-taking, physical exam, counseling) with immediate formative feedback from an observing faculty member. This is a cornerstone of our clinical assessment.
- Procedural Skills: Logging of observed and performed procedures (e.g., IV cannulation, suturing, catheterization) often assessed via DOPS.
- Reflective Entries: Written reflections on challenging cases, ethical dilemmas, or communication experiences, linking theory to practice.

The PRIME Year: A Comprehensive E-Portfolio

The PRIME Year utilizes an advanced, integrated logbook that functions as a Clinical Competency and Scholarly Activity Portfolio. This goes beyond simple checklists to document the student's readiness for internship.

Modalities Included:

- Clerkship Logs: Detailed tracking of patient management responsibilities under the "Tiered Responsibility Model."
- Longitudinal Patient Panel (LPP) Portfolio: Continuous documentation of the patient's journey, care plans, and personal reflections on chronic disease management.
- Procedural Passport: A mandatory section where students must achieve "sign-offs" for essential skills in real clinical settings.
- Advanced Mini-CEX & DOPS: More complex clinical scenarios and procedures are evaluated, expecting a higher level of competence.
- Research Publication Tracker: Documents the progression of the mandatory research project from protocol submission to manuscript acceptance.
- Leadership & QI Project Log: Records involvement and outcomes of the Capstone PRIME Project and other leadership activities.

- Synthesis and Final Reflection: A culminating self-assessment where students synthesize their five-year journey and outline their professional development plan.

Management and Compliance

Physical & Digital Formats: While standardized physical logbooks are procured from the market for consistency, students are encouraged to maintain parallel digital records or e-portfolios for ease of access and backup.

Regular Review: Logbooks are reviewed periodically by module coordinators and clinical supervisors to monitor progress and provide guidance.

Formative Tool: The logbook is primarily a formative and developmental tool. However, its satisfactory completion is a mandatory requirement for appearing in the university's summative professional examinations, as it certifies that the student has fulfilled the necessary practical and clinical requirements.

Conclusion

The integrated logbook system at the College of Medicine and Dentistry at the Hills ensures a transparent, accountable, and reflective learning process. By meticulously documenting their journey through basic sciences and clinical rotations, and culminating in the sophisticated PRIME Year portfolio, our graduates are not only PMDC-compliant but also equipped with a documented legacy of their competencies, ready for the challenges of medical practice.

16 MODULE-WISE COURSE CONTENTS

The curriculum for the MBBS program at the College of Medicine and Dentistry at the Hills, Abbottabad, is structured into 18 blocks spanning five years, encompassing a total of 33 modules. These modules are provided by KMU, the affiliating institution, and encompass a comprehensive framework for module distribution, assessment planning, internal assessment, and the annual professional examination.

The five-year curriculum is delineated in the form of modules, each with defined general and specific learning objectives. This curriculum is subject to oversight, evaluation, and implementation by KMU. For further details, the full curriculum, including all relevant modules, is appendixed at the end of this document.

17 TEACHING STRATEGIES

The College of Medicine and Dentistry at the Hills, Abbottabad, is committed to delivering a high-quality educational experience by utilizing diverse teaching and learning strategies. These methods are designed to enhance student engagement, encourage active participation, and foster deeper understanding across all disciplines of the MBBS program.

A. Large Group Formats

a. Interactive Lectures: Interactive lectures form the core of large-group teaching at the College. In these sessions, faculty introduce fundamental topics, including medical conditions, pathophysiological

mechanisms, and clinical management. The focus is on engaging students actively, using strategies such as thought-provoking questions, patient interview videos, case-based discussions, and real-time exercises. The use of visual aids and multimedia tools is maximized to enhance comprehension and retention. These lectures are not only informative but designed to provoke curiosity and stimulate critical thinking, ensuring students stay actively involved in their learning journey.

b. Directed Self-Learning: In directed self-learning, students are provided with clear learning objectives and guided resources. Faculty members play an active role by offering support, supervision, and feedback. This structured form of self-learning allows students to build a solid foundation for deeper learning. It promotes ownership of their learning while ensuring they are on the right path. This method also helps in cultivating self-discipline and organizational skills necessary for lifelong learning.

c. Self-Directed Learning: Encouraging autonomy, self-directed learning allows students to take full responsibility for their own learning. They identify what they need to learn, research it, and seek help when needed. With access to the Learning Resource Center and a variety of online and physical resources, students are encouraged to study during designated self-study hours. Peer discussions, informal group studies, and consultations with faculty are promoted to facilitate a collaborative learning culture. This approach develops independent learners who are prepared to navigate the evolving nature of medical knowledge throughout their careers.

B. Small Group Formats

a. Small Group Discussions: Small group discussions offer a more intimate setting for students to clarify concepts, develop clinical reasoning skills, and explore attitudes necessary for medical practice. These sessions are interactive and revolve around structured exercises, including patient case studies, clinical interviews, and ethical discussions. Students are encouraged to share opinions, debate ideas, and apply their understanding gained from lectures and self-study. Facilitators play a crucial role by guiding discussions, asking probing questions, and helping students synthesize information. The small group setting also allows for personalized feedback, helping students identify areas for improvement.

b. Practical Demonstrations: Hands-on learning is an essential component of medical education. Practical demonstrations are designed to complement theoretical knowledge with practical skills. Students engage in basic science practicals, such as dissection in anatomy, laboratory experiments in biochemistry, and functional exercises in physiology. These sessions are designed to reinforce key concepts by allowing students to observe, practice, and internalize essential techniques. The practical demonstrations also aim to foster teamwork, attention to detail, and the ability to apply theoretical knowledge to real-world situations.

c. Problem-Based Learning (PBL): PBL is a student-centered approach where students work in small groups to tackle complex clinical problems. This method encourages students to think critically, identify learning needs, and apply their knowledge to solve real-world medical issues. The PBL sessions are designed to integrate knowledge across various subjects, making the learning holistic and more relevant to clinical practice. Facilitators guide the process, encouraging students to take charge of their learning, ask questions, and explore different approaches to problem-solving. PBL not only develops critical thinking but also enhances collaboration, communication, and leadership skills among students.

d. Case-Based Learning (CBL): CBL is a structured, facilitator-guided approach where students work in small groups to analyze and manage specific patient cases derived from real clinical scenarios. This method challenges students to apply their foundational knowledge to diagnose and treat presented

conditions, bridging the gap between theoretical science and clinical practice. Through guided discussion and collaborative problem-solving, students enhance their clinical reasoning, diagnostic acumen, and decision-making skills. The facilitator helps focus the discussion, probes the students' clinical reasoning, and ensures that core learning objectives are met. CBL not only reinforces the practical application of medical knowledge but also cultivates teamwork, communication, and the ability to formulate evidence-based management plans in a controlled, educational setting.

e. Journal Club: The Journal Club offers a platform for students to engage with current medical research and literature. By reviewing, critically appraising, and presenting recent research articles, students develop an understanding of evidence-based practice and its application in clinical settings. This activity helps students stay updated with the latest scientific advancements and strengthens their ability to analyze research critically. Furthermore, it fosters a culture of inquiry and continuous improvement in medical knowledge, preparing students to contribute to research and innovation in the future.

These teaching strategies are designed to foster a stimulating and dynamic learning environment at the College of Medicine and Dentistry at the Hills, Abbottabad. By integrating modern pedagogical approaches, the college ensures that its students are well-equipped with the knowledge, skills, and attitudes necessary for the challenges of the medical profession.

18 ASSESSMENT POLICY

Purpose

The Student Assessment Policy aims to define the assessment practices for the undergraduate MBBS program at the College of Medicine and Dentistry at the Hills, Abbottabad, in alignment with the guidelines of the PMDC and Khyber Medical University (KMU). Developed by the Curriculum Committee, this policy ensures a consistent, effective, and transparent assessment system throughout the medical curriculum.

The assessment policy for the undergraduate MBBS program at the College of Medicine and Dentistry at the Hills, Abbottabad, is founded on the following key principles:

- **Validity**: Assessments must accurately measure the extent to which students have achieved the intended learning outcomes and competencies.
- **Reliability**: The assessment process should ensure consistency and fairness, where student performance is evaluated objectively across different contexts.
- **Transparency**: Assessment criteria, processes, and results must be clear and accessible to both students and faculty to avoid ambiguity.
- **Formative and Summative Balance**: The assessment approach should include both formative assessments to support student learning and improvement, and summative assessments to judge final competency and qualification.
- **Alignment with Learning Objectives**: All assessments must align with the overall curriculum structure, ensuring that they measure the appropriate knowledge, skills, and attitudes expected from students at each stage of the program.

- **Continuous Feedback**: Assessments should provide timely feedback to students to guide their learning and help them improve over time.
- **Ethical Conduct**: The assessment process should uphold academic integrity, and students should be evaluated fairly without any form of discrimination or bias.

Assessment Types

Assessments within the MBBS program at the College of Medicine and Dentistry at the Hills, Abbottabad, consist of both formative and summative evaluations. These assessments are integral to monitoring student progress and academic performance.

- **Formative Assessment**

Formative assessments, accounting for 20% of the total marks assigned to each block, serve as ongoing evaluations designed to provide feedback and facilitate learning. The allocation of this 20% can be determined in accordance with the blueprint of KMU and further distributed as per the academic council's recommendations. Formative assessments are conducted after the completion of each module, ensuring that students receive timely feedback to enhance their understanding and performance.

- **Summative Assessment**

Summative assessments, which comprise the majority of the assessment weighting (80% of all marks), are conducted and overseen by KMU, as part of the annual examination process. The summative annual examination is organized and conducted by KMU, which carries out the evaluation and grading. This summative assessment evaluates students' comprehensive understanding of the curriculum and accounts for a significant portion of their final scores.

Assessment Tools

Various assessment tools are employed throughout the MBBS program to comprehensively gauge students' knowledge, skills, and professional competencies. In the Final (PRIME) Year, the assessment strategy intensifies to focus on synthesis and readiness for practice. These tools include:

- **Written Examinations:** Encompassing Multiple Choice Questions (MCQs) and Short Essay Questions (SEQs) to evaluate theoretical knowledge and clinical reasoning.
- **Performance Assessments:** Including Objective Structured Practical Examinations (OSPE) and Objective Structured Clinical Examinations (OSCE) to objectively assess practical and clinical skills in a standardized setting.
- **Workplace-Based Assessments (WBAs):** Tools used in clinical environments to monitor ongoing development. These include:
    - **Clinical Logbooks:** Electronically or manually maintained records of clinical exposures, procedures performed, and skills demonstrated, subject to periodic audit and verification.
    - **Mini-CEX (Mini-Clinical Evaluation Exercise):** Direct observation and feedback on focused patient encounters.
    - **DOPS (Direct Observation of Procedural Skills):** Assessment of practical procedural skills.

- **Portfolio-Based Assessment:** A structured collection of work demonstrating growth and competence over time. This includes the **Longitudinal Patient Panel (LPP)**, reflective journals, procedure logs, and other evidence of professional development.
- **Complex Clinical Evaluations:**
    - **Long Cases:** Comprehensive assessments of a single patient encounter, focusing on in-depth history-taking, physical examination, clinical reasoning, and management planning.

- **Assignments and Projects:** Including presentations, research projects, and the **Capstone PRIME Project**, which are designed to enhance critical thinking, research skills, and the ability to synthesize knowledge across disciplines.

Appeal Policy for Student Assessment Grievances
The CMDH is committed to ensuring fairness, transparency, and justice in all its assessment processes. To this end, a structured appeal policy is in place for students who wish to challenge assessment outcomes. The policy is divided into two distinct pathways for Internal (Formative) and External (Summative) assessments.

1. Appeal for Internal (Formative) Assessments
Internal assessments are conducted and managed by the CMDH Examination Cell. Any grievance concerning these assessments must be resolved internally.
Grievance Authority: The Examination Cell of CMDH is the final authority for resolving all grievances related to internal formative assessments, module exams, and in-training evaluations.

Procedure & Channel:
- The student must submit a formal, written application to the Examination Cell, specifically addressing the Assistant Controller or Controller of Examinations.
- This application must be submitted through the proper channel, which typically involves endorsement from the student's academic advisor or year coordinator.

- The application must be made within 7 calendar days of the display of the internal assessment results or the occurrence of the grievance.

Resolution Process:
- The Examination Cell will convene to review the application.
- The matter may be referred to the Student Grievances Committee for a thorough investigation, which may include re-evaluation of answer sheets, review of marking criteria, and interviews with involved faculty.
- A final decision will be communicated to the student in writing.

2. Appeal for External (Summative) Assessments
Summative assessments (Annual Examinations) are conducted, evaluated, and graded by Khyber Medical University (KMU). Therefore, CMDH does not have the authority to alter these results. The appeal process for these examinations is directed externally.

Grievance Authority: The Controller of Examinations at Khyber Medical University (KMU) is the final authority for summative assessment appeals.

Procedure & Channel:

- A student wishing to appeal an external result must submit a formal appeal through the Principal's Office of CMDH.
- The Principal's Office will formally endorse and forward the appeal to the KMU Controller of Examinations.

S.N	APPENDIX NO	APPENDIX DETAILS (MODULE GUIDES)
1.	APPENDIX 1-5	Foundation-I, Blood-I, MSK-I, CVS – I, RES – I
2.	APPENDIX 6-11	Neurosciences 1A, Neurosciences 1B, GIT -I, Renal-I, Endo – I, Repro - I
3.	APPENDIX 12-18	Foundation – II, Infection & Inflammation-II, Multisystem-I, Blood & Immunology-II, CVS – II, RES – II
4.	APPENDIX 19-24	Neurosciences-II, GIT & Hepatobiliary – II, Renal-II, Endo & Repro-II, ENT, EYE
5.	APPENDIX 25-33	Foundation-III, Blood & Immunology-III, MSK-III, Cardiorespiratory-III, Renal-III, Endo & Repro-III
6.	APPENDIX 34	PMDC Curriculum for UME, MBBS
7.	APPENDIX 35	Detailed distribution of teaching hours
8.	APPENDIX 36	Curricular evaluaion plan
9.	APPENDIX 38	Assessment policy
10.	APPENDIX 39	A logbook sample

- The appeal must be filed within the deadline specified by KMU's examination regulations, which typically follows the official declaration of results.

Resolution Process:
The entire process of re-checking, re-assessment, or any other form of appeal is managed and executed directly by KMU according to its own policies and procedures.
CMDH will facilitate communication but cannot influence the outcome of the appeal.

This structured policy ensures that every student has the right to a fair hearing for any academic grievance, with clear lines of responsibility and defined timelines for a prompt and just resolution.

Assessment Compilation and Sharing
At the culmination of each academic session, the Examination Cell compiles the total assessment scores. This score is shared with KMU for inclusion into the annual score. KMU completes, formulates, and declares the final score.

For detailed information on assessment, please refer to ***APPENDIX 37*** of our Assessment Policy.

19 APPENDICES