RMU – 12

Integrated Modular

MBBS Curriculum 2026

Isolation to Beyond Boundaries

Study Guide

Department of Family Medicine

2026

Fourth Year MBBS

Rawalpindi Medical University
Department of Family Medicine
Integrated Modular Curriculum
4th year MBBS

	Rawalpindi Medical University			
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Dr. Ali Raza (Program Coordinator Family Medicine) **Dr. Seemab Waqas** (Co-Coordinator Family Medicine)	2026	1st	The 4th –year Family Medicine curriculum integrates holistic primary care academics with structured batch-wise ward rotations and competency based assessment guide lines.

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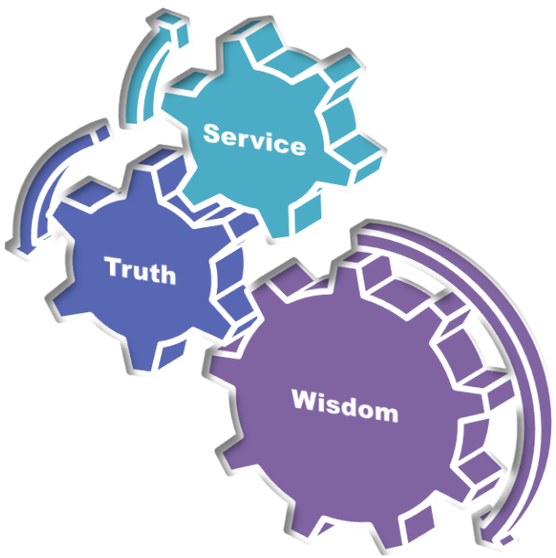
Curriculum Mission and Vision

RMU Motto



Mission Statement

To impart evidence-based research-oriented health professional education to provide best possible patient care and inculcate the values of mutual respect, ethical practice of healthcare and social accountability.

Vision and Values

Highly recognized and accredited centre of excellence in Medical Education, using evidence-based training techniques for development of highly competent health professionals, who are lifelong experiential learner and are socially accountable.

Goals of the Undergraduate Integrated Modular Curriculum

The Undergraduate Integrated Learning Program is geared to provide you with quality medical education in an environment designed to:

- Provide thorough grounding in the basic theoretical concepts underpinning the practice of medicine.
- Develop and polish the skills required for providing medical services at all levels of the health care delivery system.
- Help you attain and maintain the highest possible levels of ethical and professional conduct in your future life.
- Kindle a spirit of inquiry and acquisition of knowledge to help you attain personal and professional growth & excellence.

RMU – 12 Integrated Modular MBBS Curriculum 2026
Isolation to Beyond Boundaries

Figure 1

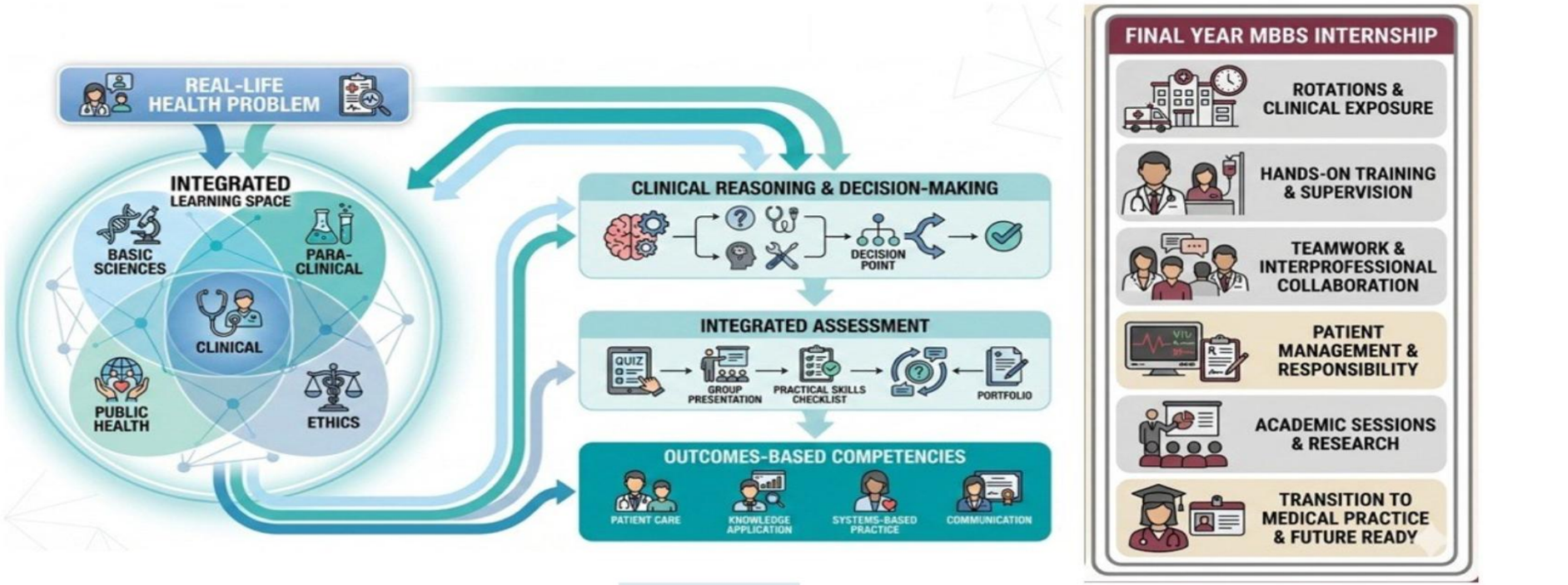
References

Harden RM. The integration ladder: a tool for curriculum planning and evaluation. Medical education. 2000 Jul 1;34(7).

Ten Cate O. Nuts and bolts of entrustable professional activities. Journal of graduate medical education. 2013 Mar 1;5(1):157-8.

Pakistan Medical & Dental Council Guidelines for Undergraduate Medical Education (MBBS) Curriculum – 2024

Structured Framework of RMU – 12 Integrated Modular MBBS Curriculum 2026
Isolation to Beyond Boundaries



Founadion	The Bridge	The Workplace Entrustment	Embeded Internship
• Pre-clinical sciences • Harden Level 8 (Complementary) MBBS Year (1 & 2)	• Para-clinical sciences • Harden Level 9,10 (Multidiciplinary & Interdiciplinary) MBBS Year (3 & 4)	• Clinical sciences • Harden Level 11 (Transdiciplinary) MBBS Year 5	

Figure 2

Structured Framework of Clinically Oriented Integrated Modular MBBS Curriculum 2026
RMU 12 - Isolation to Internship

Phase	Curricular Highlights
Pre House-job Internship	**Undergraduate Internship** The Pre House-Job Internship is a structured, supervised transition phase that consolidates clinical skills and professional readiness before the statutory house job. Learning is workplace-based and centred on clearly defined Entrustable Professional Activities aligned with international standards. Assessment relies on programmatic workplace-based tools and entrustment decisions to ensure safe, consistent performance and smoother transition into supervised clinical practice.
Clinical Sciences The Workplace Entrustment	**Transdisciplinary** Clinical education is embedded within real patient care and organised around EPAs and graded responsibility. Students learn as supervised members of clinical teams. Assessment is workplace-based and progression is guided by entrustment decisions supported by portfolios.
Paraclinical Sciences The Bridge	**Multidisciplinary and Interdisciplinary** Pre-clinical sciences are organised around clinical problems and system themes with interdisciplinary learning outcomes and team-based teaching. Instruction uses case-based learning, simulation and integrated laboratories to promote cross-disciplinary reasoning, while advanced units introduce task-based competencies and EPAs using a spiral design. Assessment emphasises integrated performance through OSCEs, workplace-linked tools and portfolios, with progression informed by aggregated evidence rather than single examinations.
Pre-Clinical The Foundation	**Complementary** Basic Medical Sciences are organized into system and theme-based modules with coordinated teaching across disciplines. Subject teaching is aligned through module-level outcomes and planned integrated sessions that reinforce related concepts. Assessments include items to test applied understanding, supported by interdisciplinary planning to ensure coherence.

Rawalpindi Medical University has adopted a staged curricular framework that reflects a progressive movement along Harden's integration ladder, culminating in going beyond the ladder to RMU Integration level 12. The curriculum is designed to ensure that knowledge acquired in the early years is not isolated or terminal, but is progressively contextualized, applied and transformed into professional competence. This progression is achieved by aligning curricular structure, teaching approaches and assessment strategies so that students move from conceptual understanding to integrated reasoning and finally to authentic clinical performance with graded responsibility.

Phase 1- The Foundation

In the early phase, basic sciences are organised using a complementary approach. The curriculum is structured into system- and theme-based modules rather than isolated subject courses, allowing Anatomy, Physiology, Biochemistry and related disciplines to retain their academic identity while contributing in a coordinated and mutually reinforcing manner. Learning outcomes are written at the module level and are intentionally framed to reflect conceptual understanding of systems rather than discipline-specific factual recall alone. Teaching is primarily discipline-led, but content delivery is carefully sequenced so that related concepts across subjects are taught in close temporal proximity. This sequencing is reinforced through planned integrated multidisciplinary activities such as problem-based learning, case-based learning and joint sessions that require students to draw connections across disciplines. Teaching methods extend beyond lectures to include small-group discussions with structured clinical problem triggers that encourage early application of knowledge. Assessment in this phase is knowledge-focused, but incorporates integrated items and short clinical vignettes to test applied understanding (C4 level) across disciplines. These integrated assessment elements are deliberately introduced to prepare students for more complex synthesis (C6 level) in later phases, while maintaining the reliability. Regular interdisciplinary planning meetings and module coordination ensure coherence, avoid unnecessary duplication and maintain alignment between teaching and assessment.

Phase 2- The Bridge

As students enter the pre-clinical phase, the curriculum transitions into a multidisciplinary and subsequently interdisciplinary design. At this stage, curricular organisation shifts more clearly towards clinical systems and patient presentations, and learning outcomes emphasise the integration of knowledge, skills and reasoning across disciplines. Rather than subjects contributing independently, departments collaborate in the design and delivery of modules, and students encounter learning experiences that require simultaneous application of concepts from multiple domains. Teaching is increasingly delivered through team-based and co-facilitated sessions, with clinicians and basic scientists jointly guiding learning activities. Case-based learning, integrated practical sessions and simulation-based teaching become central modalities, allowing students to engage with clinically meaningful problems while still grounded in scientific principles. The curriculum adopts a spiral structure in which key concepts are revisited at increasing levels of complexity, enabling deeper understanding and clinical relevance. In advanced pre-clinical components, the curriculum becomes explicitly task-oriented, focusing on common clinical presentations and professional activities rather than disciplinary content. At this stage, portfolios are introduced to support longitudinal documentation of learning, and early forms of

Workplace-linked assessment.

Entrust able activities are incorporated to familiarize students with performance-based expectations. Assessment strategies emphasize synthesis and reasoning, using integrated written examinations, complex case vignettes, OSCEs and structured simulation assessments. Decisions about student progress increasingly rely on aggregated evidence from multiple assessment tools and research projects.

Phase 3- The Workplace Entrustment

In the clinical phase, the curriculum becomes fully trans disciplinary, with learning embedded within authentic patient care and professional practice. Educational activities are organised around real clinical tasks, patient care pathways and Entrust able Professional Activities that reflect the core responsibilities of a graduating doctor. Students are integrated into clinical teams and participate in patient care under supervision, progressively assuming greater responsibility as competence is demonstrated. Teaching is predominantly workplace- based, supported by bedside teaching, coaching, reflective practice and targeted simulation for complex or high-risk activities. The distinction between disciplines becomes secondary to the holistic management of patients, as students are expected to integrate biomedical knowledge, clinical skills, communication, professionalism and teamwork in real settings. Assessment is programmatic and centred on performance in the workplace, using tools such as mini-CEX, DOPS, case-based discussions and multisource feedback. Evidence from these assessments is collected longitudinally within portfolios and reviewed by entrustment or competence committees to make informed decisions about progression and readiness for practice. Summative judgment is therefore based on sustained performance over time. Faculty roles evolve from subject teachers to supervisors, assessors and coaches, with explicit responsibility for observation, feedback and entrustment decisions. Diverse clinical exposure in tertiary public sector hospitals and community settings ensure adequate exposure, supervision and assessment opportunities, while quality assurance processes focus on the validity and consistency of entrustment decisions and learning experiences.

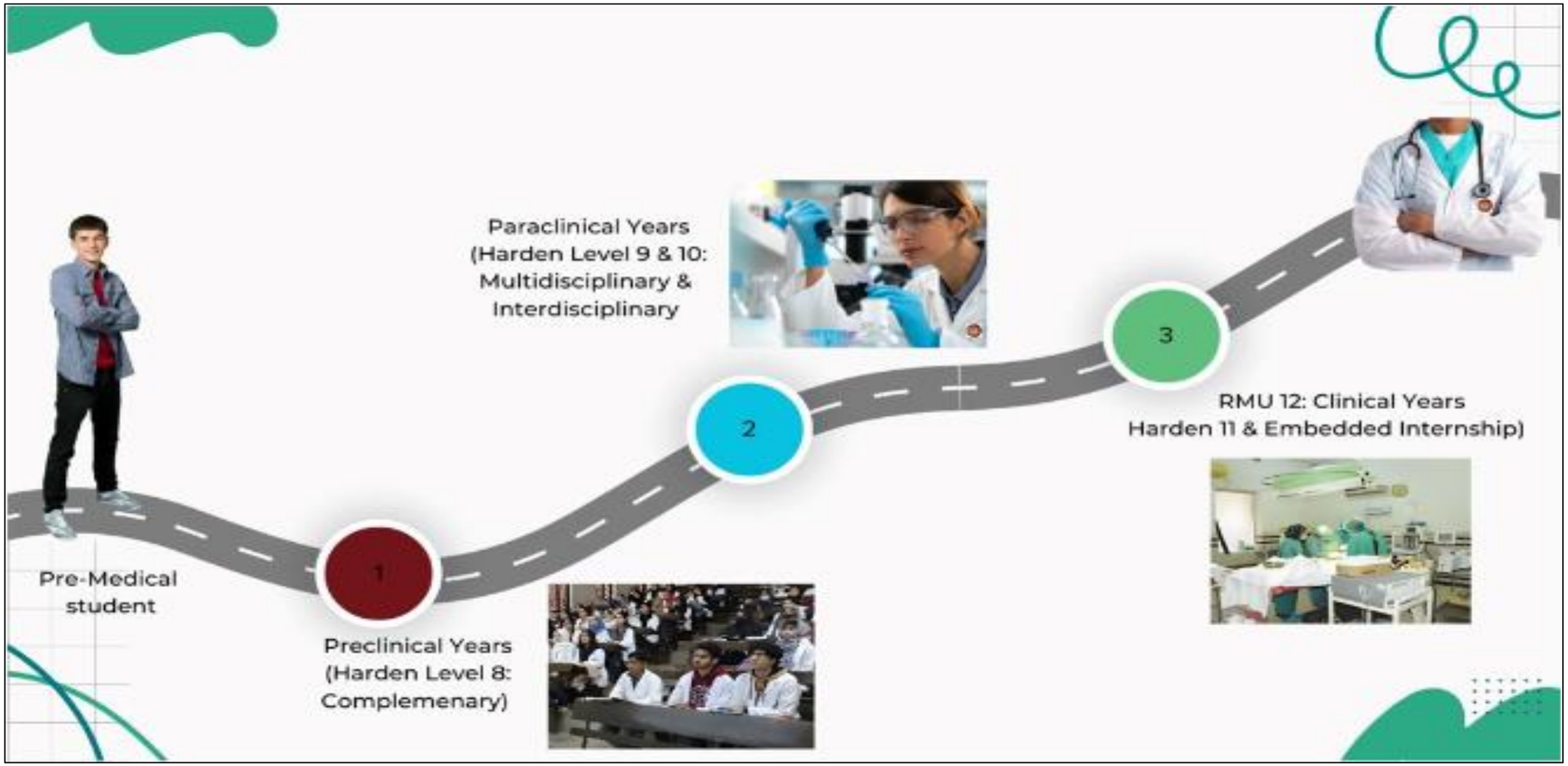
Phase 4- The Undergraduate Internship

The Undergraduate Internship is a structured, supervised transition phase designed to consolidate clinical competence and ensure readiness for the statutory house job. It provides learners with protected, workplace-based exposure focused on authentic patient care tasks, guided by clearly defined Entrust able Professional Activities aligned with international standards. Teaching emphasizes supervised clinical practice, simulation for high-risk scenarios, and inter-professional teamwork, while assessment uses programmatic workplace-based tools, portfolios and entrustment decisions to judge safe, consistent performance. This level strengthens patient safety, reduces transition shock, and ensures that graduates enter the house job with demonstrable, documented readiness for independent supervised practice.

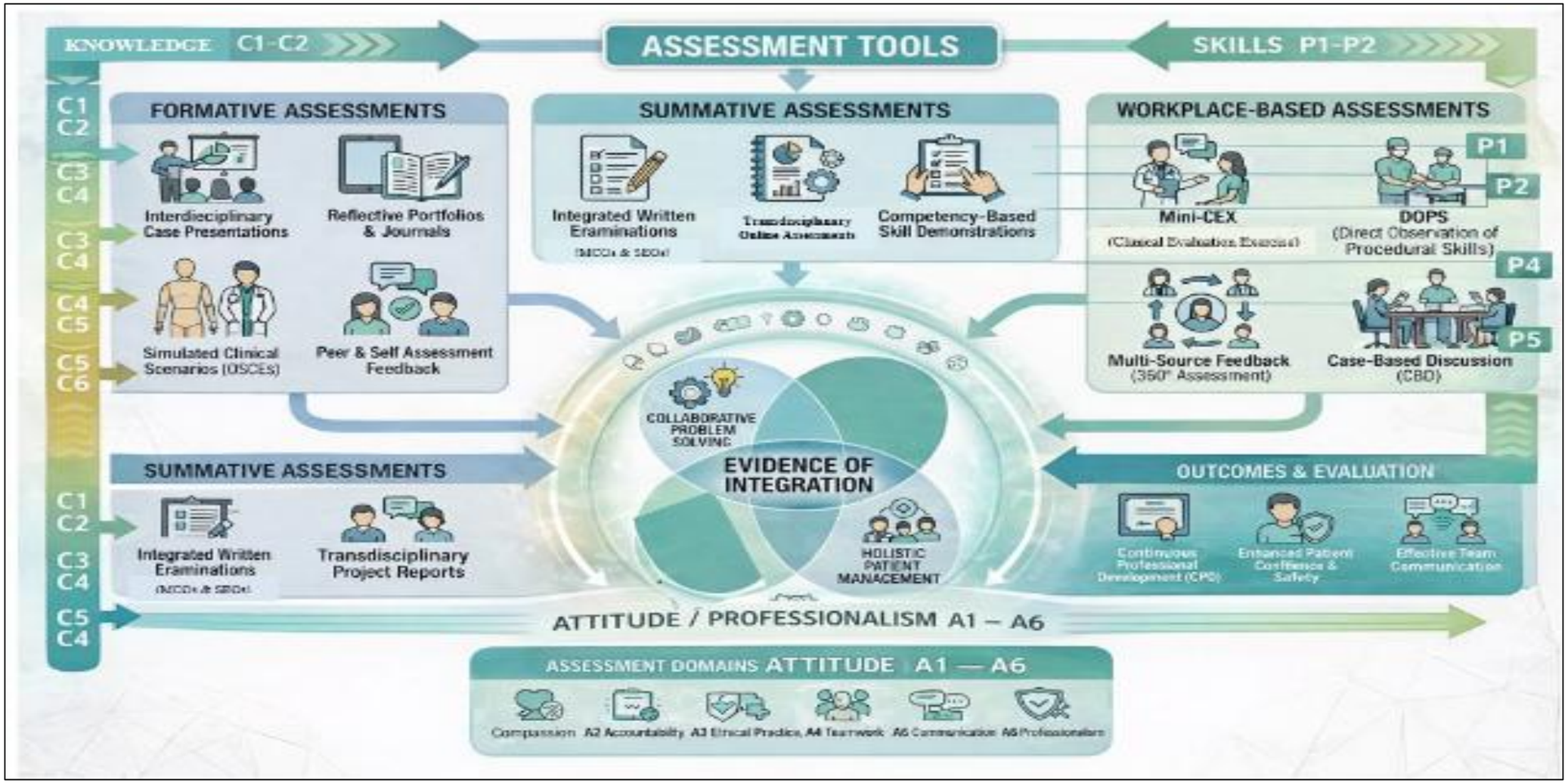
Across all phases, the curriculum is underpinned by faculty development and continuous quality assurance. The staged movement from complementary through multidisciplinary and interdisciplinary learning to trans disciplinary clinical practice ensures that graduates are not only knowledgeable, but also capable of applying their learning effectively and safely in real clinical environments. This integrated and progressive design reflects contemporary best practices in medical education and aligns the educational experience with the expectations of modern healthcare systems.

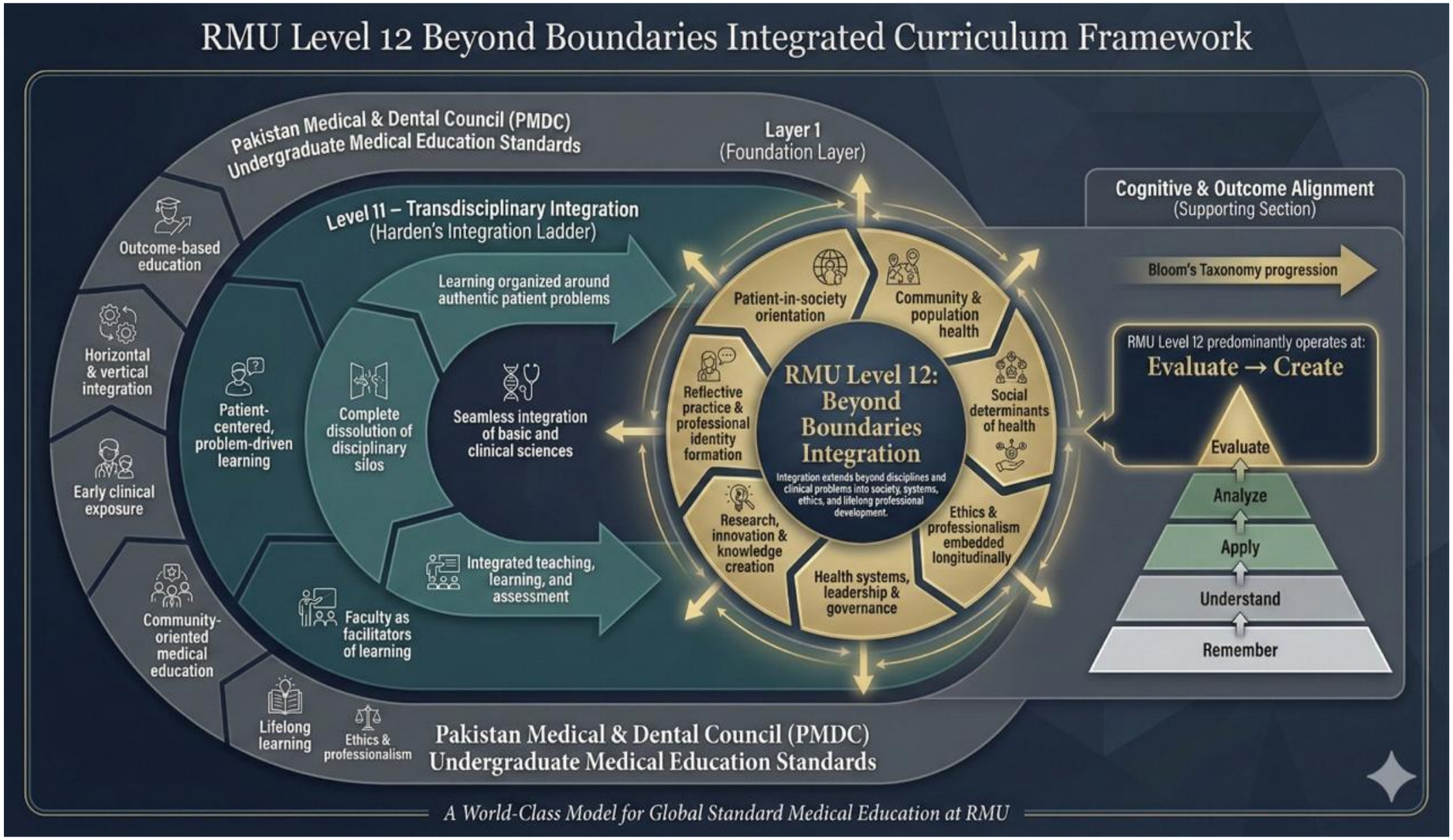
Structured Framework of RMU – 12 Integrated Modular MBBS Curriculum 2026

Isolation to Beyond Boundaries



Assessment Framework of RMU – 12 Integrated Modular MBBS Curriculum 2026 Isolation to Beyond Boundaries




RMU Level 12 Beyond Boundaries Integrated Curriculum Framework
Pakistan Medical & Dental Council (PMDC)
Undergraduate Medical Education Standards
Outcome-based education
Horizontal & vertical integration
Early clinical exposure
Community-oriented medical education
Lifelong learning
Ethics & professionalism
Level 11 – Transdisciplinary Integration
(Harden's Integration Ladder)
Patient-centered, problem-driven learning
Complete dissolution of disciplinary silos
Learning organized around authentic patient problems
Seamless integration of basic and clinical sciences
Integrated teaching, learning, and assessment
Faculty as facilitators of learning
Layer 1
(Foundation Layer)
Patient-in-society orientation
Community & population health
Social determinants of health
Ethics & professionalism embedded longitudinally
Health systems, leadership & governance
Research, innovation & knowledge creation
Reflective practice & professional identity formation
RMU Level 12: Beyond Boundaries Integration
Integration extends beyond disciplines and clinical problems into society, systems, ethics, and lifelong professional development.
Cognitive & Outcome Alignment
(Supporting Section)
Bloom's Taxonomy progression
RMU Level 12 predominantly operates at:
Evaluate → Create
Evaluate
Analyze
Apply
Understand
Remember
Pakistan Medical & Dental Council (PMDC)
Undergraduate Medical Education Standards
A World-Class Model for Global Standard Medical Education at RMU

RMU Level 12 Trans-Contextual Integration Framework

Introduction

Modern medical education emphasizes integration as a cornerstone for producing competent, reflective, and patient-centred physicians. Harden's Integration Ladder provides a structured framework to assess the degree of integration within a medical curriculum, ranging from isolated teaching (Level 1) to full trans disciplinary integration (Level 11). Rawalpindi Medical University (RMU), through its MBBS curriculum design, teaching strategies, and assessment framework, demonstrates clear alignment with PMDC's undergraduate medical education standards and fulfils the criteria for Level 11 on Harden's Integration Ladder and even beyond boundaries corresponding to ***RMU Level 12 Integration***. Furthermore, RMU's curriculum promotes higher-order thinking skills as defined by Bloom's Taxonomy, thereby extending beyond mere integration to the development of competent, reflective, and adaptive physicians.

Rawalpindi Medical University in the Context of Harden's Integration Ladder: Level 11 and Beyond Boundaries

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Rawalpindi Medical University (RMU), through its undergraduate MBBS curriculum and evolving educational strategies, demonstrates characteristics that place it at Level 11 of Harden's Ladder and, in several aspects, even beyond that RMU Level 12(beyond boundaries/internship). This is evident in RMU's holistic curriculum design, clinical immersion, problem-based learning, community-oriented education, and outcome-driven assessment strategies.

Key Highlights

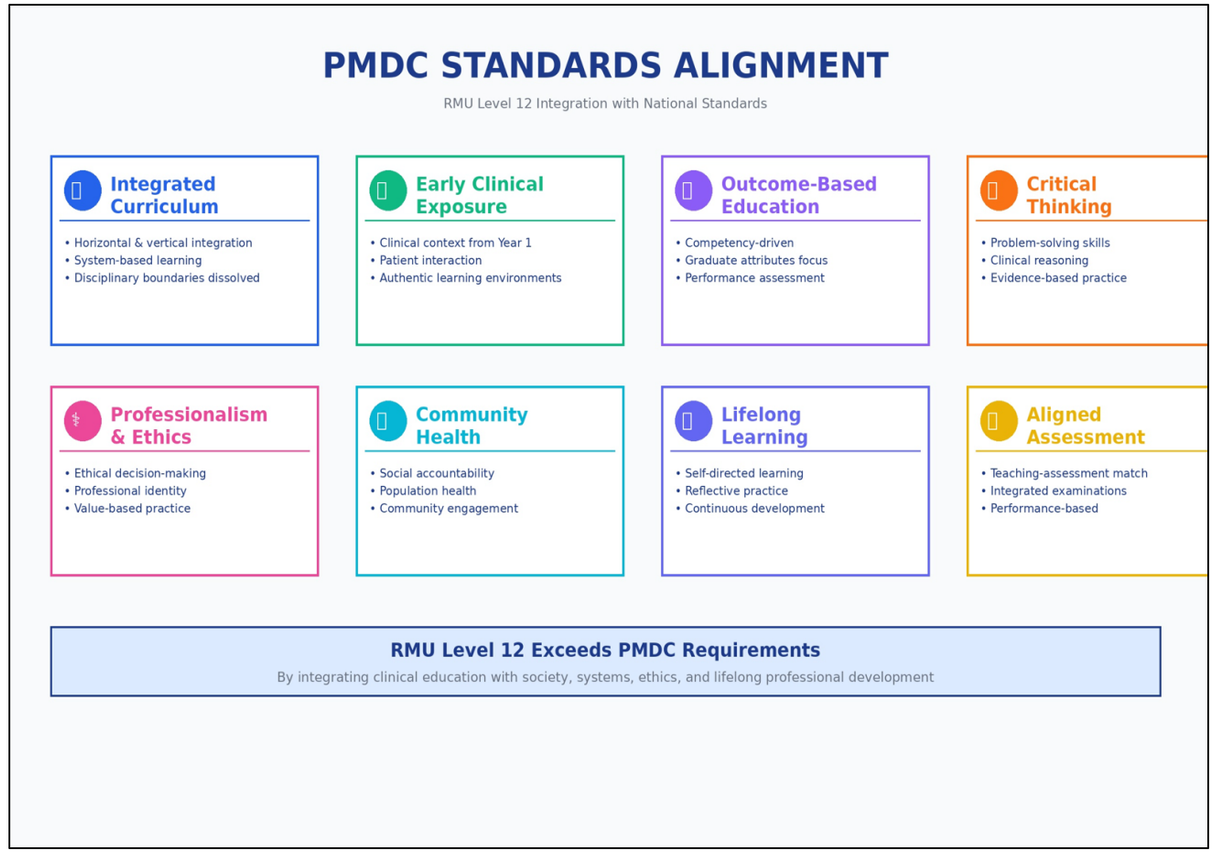
- Transcends Harden's Level 11 through integration with society, systems, ethics, and lifelong learning
- Fully aligned with PMDC undergraduate medical education standards
- Emphasizes higher-order thinking: Analysis, Evaluation, and Creation (Bloom's Taxonomy)
- Produces socially accountable, adaptive physicians prepared for 21st-century healthcare challenges

1. Foundations of Integration

1.1 PMDC Standards for Medical Education

The Pakistan Medical and Dental Council mandates a transformative approach to undergraduate medical education characterized by:

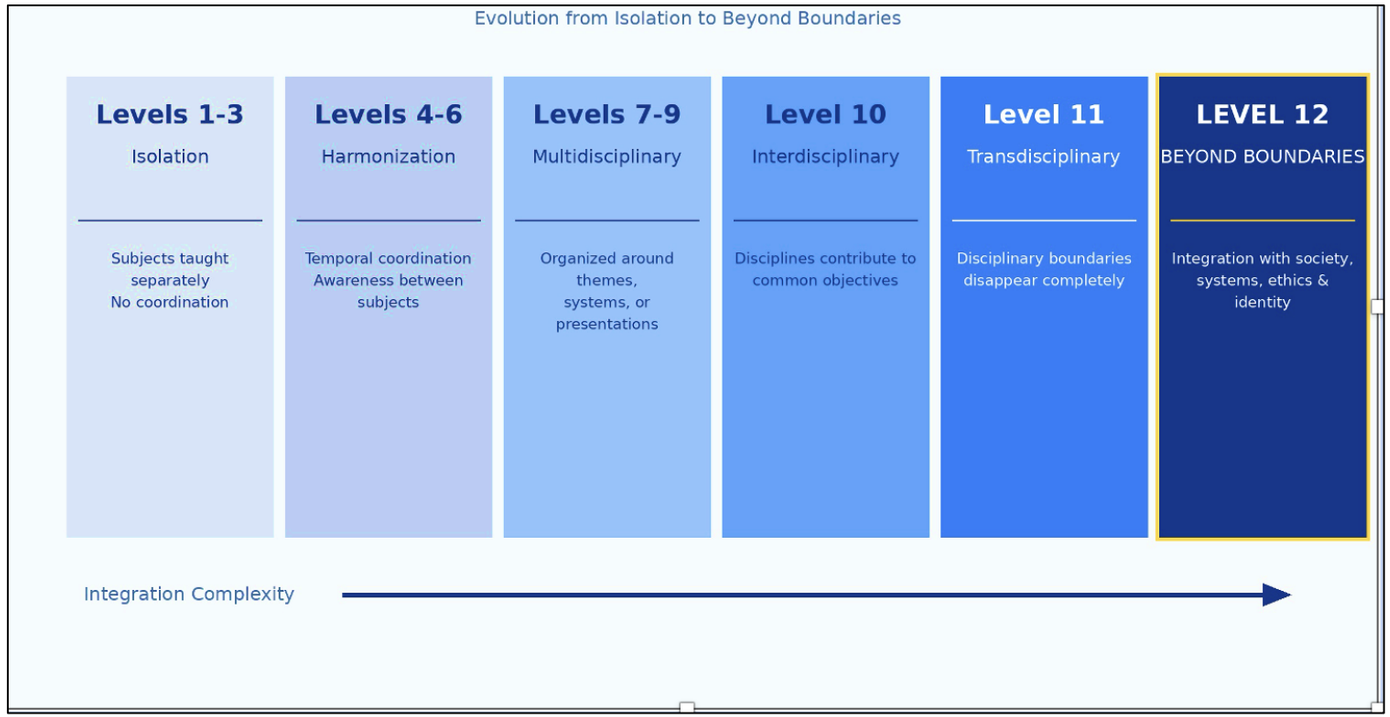
- **Integrated Curriculum:** Horizontal integration (across disciplines) and vertical integration (across years)
- **Early Clinical Relevance:** Clinical context introduced from initial years
- **Outcome-Based Education:** Focus on graduate competencies rather than content coverage
- **Critical Thinking & Problem-Solving:** Development of analytical and evaluative skills
- **Professionalism & Ethics:** Embedded throughout the curriculum, not as isolated modules
- **Alignment of Teaching, Learning, and Assessment:** Constructive alignment with graduate outcomes



1.2 Harden's Integration Ladder: Overview

Harden's Integration Ladder provides a systematic framework for evaluating curricular integration, progressing through 11 levels:

HARDEN'S INTEGRATION LADDER → RMU BEYOND BOUNDARIES



2. RMU Level 12—Beyond Boundaries

2.1 Conceptual Definition

RMU Level 12: Beyond Boundaries Integration

A curriculum in which learning is organized not merely around disciplines or clinical problems, but around real-world health systems, societal needs, ethical complexity, population health challenges, and professional identity formation—producing graduates who can adapt, lead, and innovate across contexts.

2.2 Why Level 12 Exists

While Harden's Integration Ladder culminates at Level 11 (Transdisciplinary Integration), contemporary medical education—particularly as mandated by PMDC—requires graduates who can function beyond the clinical encounter. RMU operates beyond transdisciplinary clinical integration by:

- Shifting the unit of integration from the patient alone to the patient embedded within society, systems, ethics, and professional identity
- Addressing health systems, governance, and resource allocation as integral learning domains
- Embedding knowledge creation and research literacy, not just knowledge synthesis
- Structuring lifelong learning and adaptive professionalism as explicit outcomes
- 2.3 Five Pillars of Level 12 Integration

A. Societal Integration: Patient-in-Society Problems

Level 11: Patient-centred clinical problems

RMU Level 12: Patient-in-society problems

RMU Implementation:

- Community-based medical education

- Analysis of social determinants of health
- Preventive and promotive healthcare strategies
- Health equity considerations in clinical decision-making

Students don't merely diagnose disease—they analyze population patterns and design interventions, requiring evaluation and creation (Bloom's highest levels).

B. Value-Based Integration: Contextual Ethics

Level 11: Ethics integrated within cases

RMU Level 12: Ethics embedded longitudinally in real decisions

RMU Implementation:

- Ethical dilemmas arising from real patient encounters, not hypothetical scenarios
- Continuous professional identity formation throughout the curriculum
- Assessment of reflective practice and ethical reasoning

Students must weigh competing values, manage uncertainty, and justify actions—hallmarks of evaluation-level cognition.

C. System-Level Integration: Healthcare Systems & Leadership

Level 11: Focus on individual patient care

RMU Level 12: Focus on healthcare systems and governance

RMU Implementation:

- Exposure to health systems functioning and policy implications
- Understanding resource allocation realities

- Leadership and teamwork competencies
- *Students evaluate trade-offs between individual benefit and population good—something no single discipline or clinical problem can teach.*

D. Knowledge Creation: Beyond Synthesis

Level 11: Knowledge synthesis

RMU Level 12: Knowledge generation

RMU Implementation:

- Research literacy and critical appraisal skills
- Clinical audits and community health projects
- Evidence-based practice and innovation

Students formulate research questions, design solutions, and create outputs—aligning with the creation level of Bloom's Taxonomy.

E. Temporal Integration: Lifelong Professional Identity

Level 11: Competent graduate

RMU Level 12: Adaptive professional

RMU Implementation:

- Reflective portfolios documenting professional growth
- Self-directed learning plans

- Feedback-driven continuous improvement

Graduates leave with the ability to identify learning needs and adapt to new contexts—temporal integration across undergraduate education and professional life.

3. Alignment with PMDC Standards

The following table demonstrates explicit mapping between PMDC graduate competencies, RMU curriculum implementation, and justification for Level 12 integration:

PMDC Competency	RMU Implementation	Level 12 Justification
Medical Knowledge	Integrated system-based modules combining anatomy, physiology, pathology, pharmacology, radiology, and clinical medicine	Knowledge constructed through real patient problems; subject boundaries dissolved
Clinical Skills & Patient Care	Early clinical exposure, bedside teaching, skills labs, OSCEs	Skills and knowledge learned simultaneously in authentic clinical contexts
Clinical Reasoning	Case-based learning, problem-based tutorials, integrated examinations	Learning organized around clinical problems requiring synthesis beyond single disciplines
Communication Skills	Longitudinal communication training embedded in OSCEs and ward teaching	Communication competencies embedded within patient encounters, not isolated modules
Professionalism & Ethics	Longitudinal professionalism themes, ethics discussions during clinical rotations	**Ethical reasoning contextualized within patient care—extends to value-based integration**
Community & Preventive Health	Community-based medical education, public health projects, outreach programs	**Integrates clinical medicine with population health and social determinants—societal integration**
Lifelong Learning	Reflective practice, research literacy, self-directed learning tasks	**Students identify learning needs from clinical encounters—temporal integration**

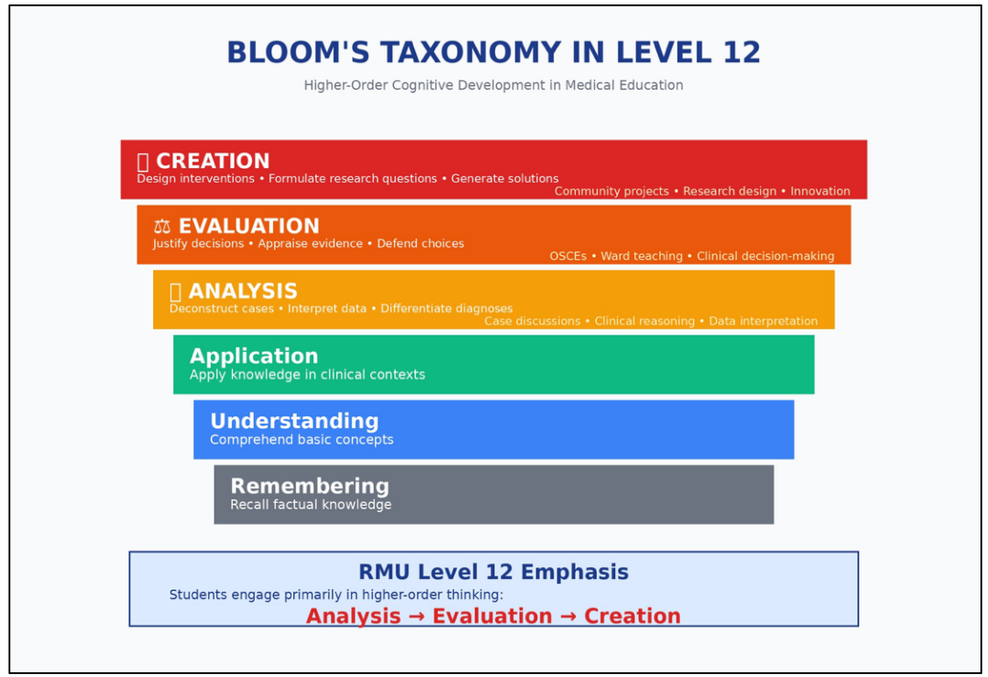
4. Bloom's Taxonomy & Higher-Order Thinking

RMU's curriculum explicitly targets higher-order cognitive domains of Bloom's Taxonomy:

- **Analysis:** Breaking down complex clinical cases, interpreting investigations, differentiating diagnoses
- **Evaluation:** Appraising evidence, justifying management decisions, defending clinical choices
- **Creation:** Designing interventions, formulating research questions, developing solution

4.1 Learning Activities Mapped to Bloom's Levels

Learning Activity	Bloom's Level	Justification
Integrated case-based discussions	**Analysis**	Students deconstruct complex cases, interpret investigations, differentiate diagnoses
Ward-based clinical teaching	**Analysis → Evaluation**	Learners appraise patient data and justify management decisions in real time
OSCEs and scenario-based stations	**Evaluation**	Students defend clinical decisions, prioritize care, demonstrate judgment under pressure
Community health projects	**Evaluation → Creation**	Learners assess community needs and design context-specific preventive interventions
Research projects & clinical audits	**Creation**	Students formulate questions, design studies, generate new knowledge



GRADUATE OUTCOMES

Level 12 Integration Produces Adaptive Professionals

CORE COMPETENCIES

Clinical Excellence
- Evidence-based practice
- Diagnostic reasoning
- Patient safety

Professionalism
- Ethical decision-making
- Patient-centered care
- Accountability

Communication
- Effective patient interaction
- Interprofessional collaboration
- Cultural competence

Population Health
- Community engagement
- Preventive focus
- Health promotion

ADAPTIVE CAPABILITIES

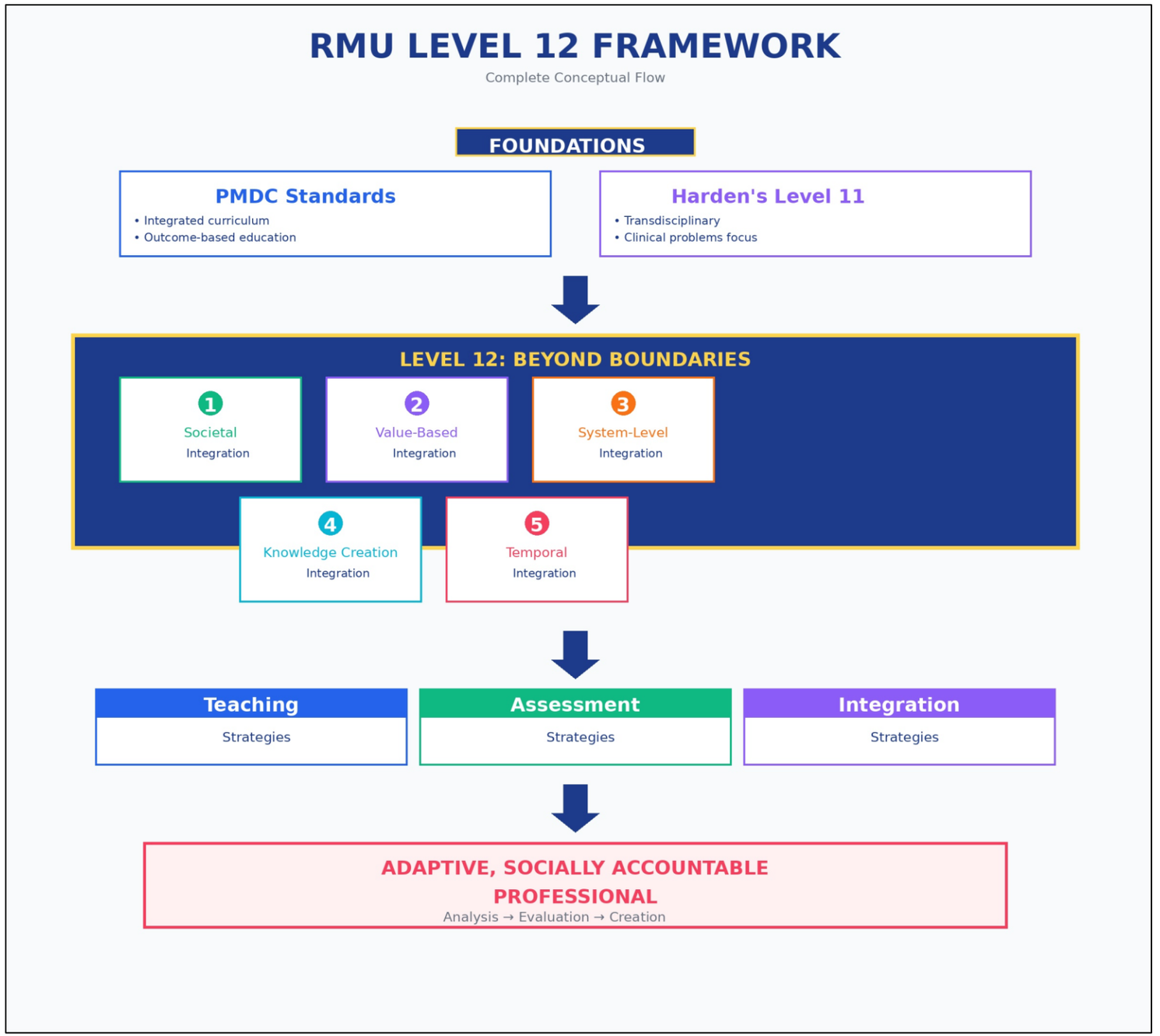
Systems Thinking
- Health systems understanding
- Policy awareness
- Resource management

Research Literacy
- Critical appraisal
- Knowledge generation
- Evidence synthesis

Lifelong Learning
- Self-directed growth
- Reflective practice
- Adaptive expertise

Leadership
- Innovation
- Change management
- Team development

ADAPTIVE, SOCIALLY ACCOUNTABLE PROFESSIONAL


RMU LEVEL 12 FRAMEWORK
Complete Conceptual Flow
FOUNDATIONS
PMDC Standards
• Integrated curriculum
• Outcome-based education
Harden's Level 11
• Transdisciplinary
• Clinical problems focus
LEVEL 12: BEYOND BOUNDARIES
1
Societal
Integration
2
Value-Based
Integration
3
System-Level
Integration
4
Knowledge Creation
Integration
5
Temporal
Integration
Teaching
Strategies
Assessment
Strategies
Integration
Strategies
ADAPTIVE, SOCIALLY ACCOUNTABLE
PROFESSIONAL
Analysis → Evaluation → Creation

Conclusion

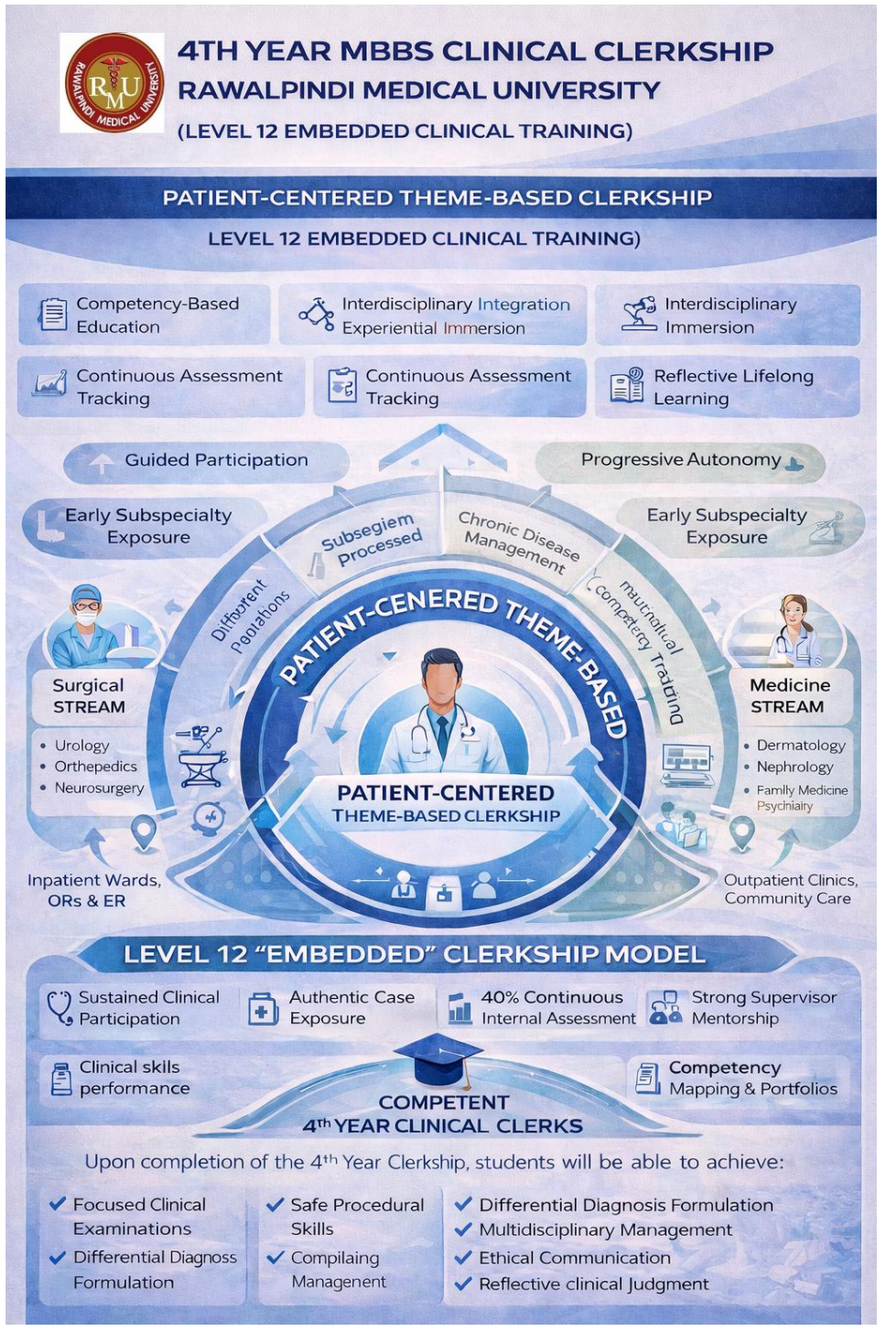
Rawalpindi Medical University's curriculum exemplifies a transformational approach to medical education that extends beyond traditional disciplinary integration. By achieving **Level 12: Beyond Boundaries Integration**, RMU demonstrates that modern medical education must prepare graduates not only as competent clinicians but as adaptive, reflective, socially accountable professionals capable of navigating complex health systems, ethical dilemmas, and evolving healthcare landscapes.

This framework, fully aligned with PMDC standards and grounded in Bloom's higher-order cognitive domains, positions RMU as an innovator in outcome-based, student-centered medical education that produces physicians prepared for 21st-century healthcare challenges.

The Five Pillars of Level 12—Societal Integration, Value-Based Integration, System-Level Integration, Knowledge Creation, and Temporal Integration—collectively represent a holistic vision for medical education that transcends disciplinary boundaries and prepares graduates for lifelong professional excellence.

Key Takeaways for Educators

- Level 12 integration is achievable through deliberate curriculum design aligned with regulatory standards
- Higher-order thinking (Analysis, Evaluation, Creation) must be explicitly embedded in learning activities
- Integration extends beyond clinical problems to encompass society, systems, ethics, and professional identity
- Assessment strategies must align with transdisciplinary learning objectives
- The ultimate goal is producing adaptive professionals, not merely competent graduates


4TH YEAR MBBS CLINICAL CLERKSHIP
RAWALPINDI MEDICAL UNIVERSITY
(LEVEL 12 EMBEDDED CLINICAL TRAINING)
PATIENT-CENTERED THEME-BASED CLERKSHIP
LEVEL 12 EMBEDDED CLINICAL TRAINING)
Competency-Based Education
Interdisciplinary Integration Experiential Immersion
Interdisciplinary Immersion
Continuous Assessment Tracking
Continuous Assessment Tracking
Reflective Lifelong Learning
Guided Participation
Progressive Autonomy
Early Subspecialty Exposure
Subsegiem Processed
Chronic Disease Management
Early Subspecialty Exposure
Different Populations
PATIENT-CENERED THEME-BASED
Surgical STREAM
• Urology
• Orthepedics
• Neurosurgery
PATIENT-CENTERED THEME-BASED CLERKSHIP
Medicine STREAM
• Dermatology
• Nephrology
• Family Medicine
Psychiatry
Inpatient Wards, ORs & ER
Outpatient Clinics, Community Care
LEVEL 12 "EMBEDDED" CLERKSHIP MODEL
Sustained Clinical Participation
Authentic Case Exposure
40% Continuous Internal Assessment
Strong Supervisor Mentorship
Clinical skills performance
Competency Mapping & Portfolios
COMPETENT 4th YEAR CLINICAL CLERKS
Upon completion of the 4th Year Clerkship, students will be able to achieve:
Focused Clinical Examinations
Differential Diagnoss Formulation
Safe Procedural Skills
Compilaing Management
Differential Diagnosis Formulation
Multidisciplinary Management
Ethical Communication
Reflective clinical Judgment

Clinical Clerkship

Rawalpindi Medical University

Level 12 Embedded Clerkship Model

(Theme-Based Integrated Clinical Training)

1. Program Overview

The 4th Year MBBS Clinical Clerkship at Rawalpindi Medical University (RMU) is designed as a structured, competency-driven, Level 12 embedded clinical training model. At this stage, students transition from supervised academic learners to progressively independent clinical participants. The program emphasizes immersive patient care exposure, deliberate practice, interdisciplinary integration, reflective learning, and longitudinal competency tracking. Unlike traditional block rotations that isolate disciplines, RMU adopts a **theme-based embedded structure**, where allied specialties are integrated within broader clinical streams. This ensures continuity in clinical reasoning, patient care responsibility, and professional identity formation.

The clerkship prioritizes:

- Authentic clinical participation
- Early subspecialty exposure
- Competency-based progression
- Structured formative feedback
- Reflective practice
- Continuous internal assessment
- Longitudinal skill development

Students are expected to function as active members of clinical teams rather than passive observers.

2. Educational Philosophy

The RMU Level 12 Embedded Clerkship is grounded in:

- Competency-Based Medical Education (CBME)
- Experiential learning through clinical immersion
- Progressive scaffolding of autonomy

- Continuous formative assessment
- Reflective and self-directed learning
- Interdisciplinary integration
- Patient-centered professionalism

Clinical learning is organized around **patient presentations and themes**, not isolated subject boundaries. Students develop clinical reasoning across systems rather than within silos.

3. Theme-Based Integrated Structure

The clerkship is organized into **integrated clinical themes** embedded within two major streams:

3.1 Surgical Stream (Allied Rotations – 2 Weeks Each)

Themes emphasize procedural exposure, surgical reasoning, and perioperative care.

Specialties include:

- Urology
- Orthopaedics
- Neurosurgery

Students experience:

- Acute surgical presentations
- Trauma and emergency care
- Operative indications
- Post-operative monitoring
- Procedural skill development under supervision

3.2 Medicine Stream (Allied Rotations – 2 Weeks Each)

Themes emphasize chronic disease management, systemic evaluation, and community-based care.

Specialties include:

- Dermatology
- Nephrology
- Family Medicine
- Psychiatry (3 weeks integrated exposure)

Students engage in:

- Outpatient clinics
- Ward rounds
- Multidisciplinary discussions
- Community and psychosocial assessments
- Longitudinal patient follow-up

The theme-based structure ensures exposure to:

- Acute conditions
- Chronic diseases
- Surgical decision-making
- Medical management
- Community care
- Mental health integration

4. Core Learning Outcomes (Level 12 Competency Expectations)

Upon completion of the 4th Year Clerkship, students will be able to:

1. Conduct focused clinical history and examination across subspecialties
2. Perform selected procedural skills safely under supervision
3. Formulate prioritized differential diagnoses

4. Develop rational investigation plans
5. Participate in multidisciplinary case discussions
6. Communicate effectively with patients and healthcare teams
7. Apply ethical and professional standards consistently
8. Demonstrate reflective clinical learning
9. Show emerging independent clinical judgment

These outcomes align with Level 12 expectations of embedded participation and progressive autonomy.

5. Assessment Model – 40% Continuous Internal Assessment (CIA)

RMU distinguishes itself through a robust Continuous Internal Assessment system.

CIA Structure:

- **30% Theory & Clinical Assessments**
- **10% LMS-based assessments**

CIA evaluates:

- Clinical skills performance
- Case presentations
- Bedside participation
- Procedural competence
- Professionalism
- Logbook completion
- Reflective portfolio entries
- Mini-CEX and DOPS
- Supervisor feedback

Continuous assessment ensures:

- Sustained engagement
- Real-time feedback

- Early identification of learning gaps
- Remediation opportunities
- Skill consolidation over time

Competence is evaluated longitudinally rather than through a single high-stakes examination.

6. Progressive Scaffolding of Autonomy

The Level 12 clerkship follows a structured autonomy model:

Stage 1 — Guided Participation

Students observe and assist in patient care.

Stage 2 — Supervised Performance

Students perform clinical tasks with structured faculty oversight.

Stage 3 — Supported Independence

Students lead patient encounters with supervision available.

Each rotation increases responsibility while maintaining safety and accountability.

This scaffolding:

- Builds confidence
- Reduces cognitive overload
- Encourages reflective learning
- Reinforces mastery through repetition
- Develops clinical judgment

Competence emerges through repeated exposure, structured feedback, and deliberate practice.

7. Level 12 Embedded Clerkship Model

The RMU Level 12 model integrates:

- Vertical curriculum alignment
- Interdisciplinary collaboration
- Competency mapping
- Longitudinal evaluation
- Reflective learning cycles

Students follow patients across services, linking classroom knowledge to real clinical decision-making.

This embedded design:

- Prevents fragmented learning
- Promotes continuity of care understanding
- Encourages systems thinking
- Strengthens teamwork skills
- Supports professional identity formation

Students learn not only clinical content but also how to function within healthcare systems.

8. Development of Self-Directed Lifelong Learners

The clerkship intentionally cultivates:

- Self-assessment skills
- Adaptive expertise
- Curiosity-driven inquiry
- Evidence-based reasoning
- Professional resilience

Students maintain portfolios, set learning goals, and engage in guided reflection.

They learn to:

- Identify personal knowledge gaps
- Seek evidence independently
- Critically appraise information
- Update clinical reasoning continuously

The goal is transformation from exam-focused learners into evolving, self-sustaining professionals.

9. Distinctive Features of the RMU Level 12 Model

Compared to traditional clerkship systems, RMU stands out by:

- Early subspecialty integration
- Embedded participation within clinical teams
- Strong 40% continuous internal assessment
- Structured scaffolding of independence
- Longitudinal competency tracking
- Emphasis on reflective growth
- Alignment with national and international competency frameworks

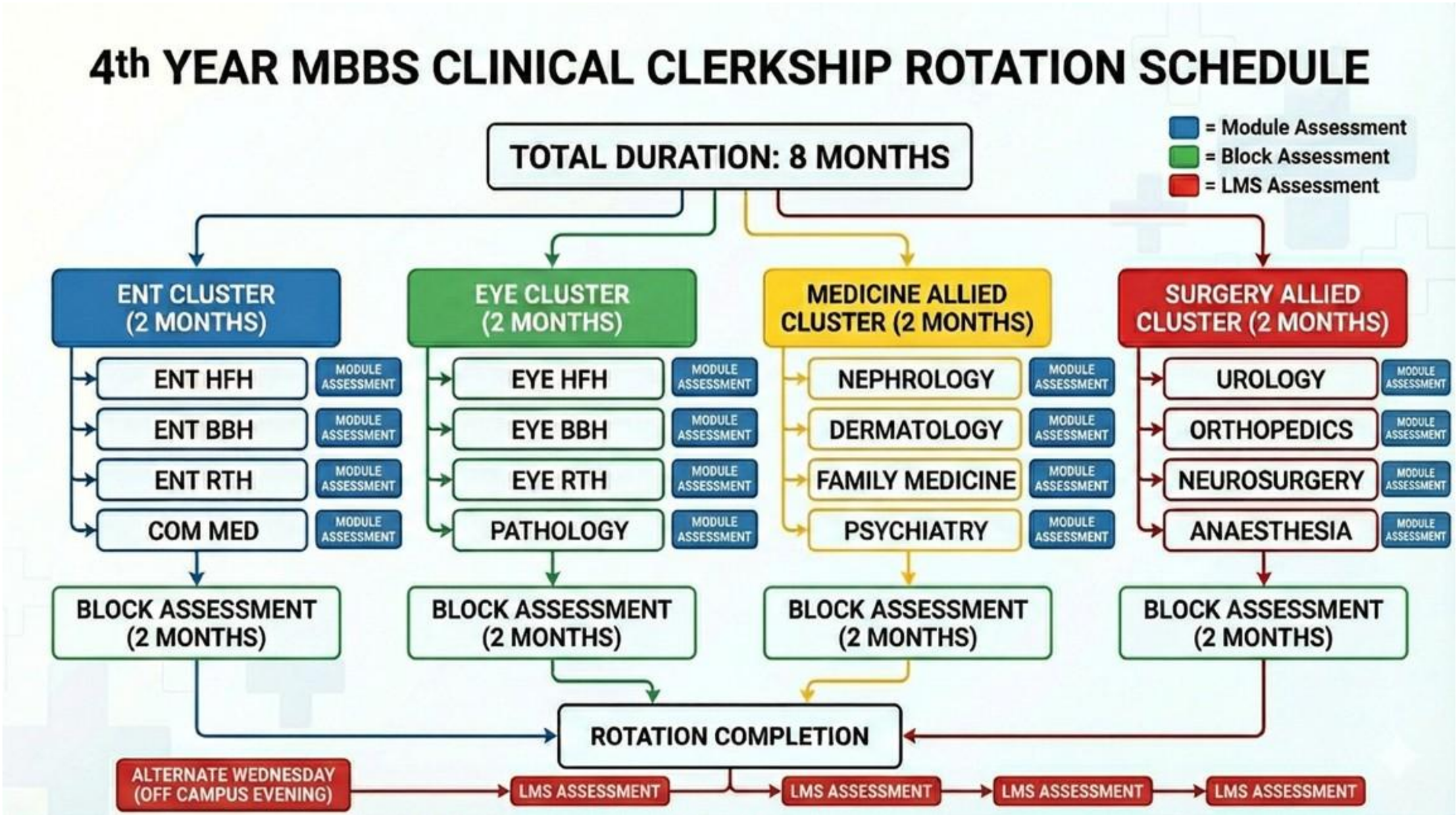
The outcome is a graduate who is:

- Clinically competent
- Adaptable
- Ethical
- Reflective
- Team-oriented
- Prepared for increasing responsibility in final year and house job

Family Medicine Block Team

Block Name: **Family Medicine Block**
Duration of module: **02 Weeks**

Block Committee			**Block Task Force Team**		
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator	Dr. Ali Raza
2.	Director DME	Prof. Dr. Ifra Saeed	2.	Co-Coordinator	Dr. Seemab Waqas
3.	Convener Curriculum	Prof. Dr. Naeem Akhter	3.	DME Focal Person	Dr. Maryum Batool
4.	Dean Medicine	Prof. Dr. Khurram	**DME Implementation Team**		
5.	Additional Director DME	Associate Prof. Dr. Arsalan Manzoor	1.	Director DME	Prof. Dr. Ifra Saeed
6.	Chairperson / HOD Family Medicine	Associate Prof. Dr. Sadia Azam Khan	2.	Add. Director DME	Associate Prof. Dr. Khoula Noureen
7.	Chairperson Community Medicine	Associate Prof. Dr. Rozina Shahadat Khan	3.	Module planner & Implementation Coordinator	Dr. Omaima Asif
8.	Focal Person Family Medicine	Dr. Muhammad Zaheer Sheikh	4.	Editor	Dr Omaima Asif


4th YEAR MBBS CLINICAL CLERKSHIP ROTATION SCHEDULE
= Module Assessment
= Block Assessment
= LMS Assessment
TOTAL DURATION: 8 MONTHS
ENT CLUSTER (2 MONTHS)
ENT HFH
ENT BBH
ENT RTH
COM MED
MODULE ASSESSMENT
BLOCK ASSESSMENT (2 MONTHS)
EYE CLUSTER (2 MONTHS)
EYE HFH
EYE BBH
EYE RTH
PATHOLOGY
MODULE ASSESSMENT
BLOCK ASSESSMENT (2 MONTHS)
MEDICINE ALLIED CLUSTER (2 MONTHS)
NEPHROLOGY
DERMATOLOGY
FAMILY MEDICINE
PSYCHIATRY
MODULE ASSESSMENT
BLOCK ASSESSMENT (2 MONTHS)
SURGERY ALLIED CLUSTER (2 MONTHS)
UROLOGY
ORTHOPEDICS
NEUROSURGERY
ANAESTHESIA
MODULE ASSESSMENT
BLOCK ASSESSMENT (2 MONTHS)
ROTATION COMPLETION
ALTERNATE WEDNESDAY (OFF CAMPUS EVENING)
LMS ASSESSMENT
LMS ASSESSMENT
LMS ASSESSMENT
LMS ASSESSMENT

4th Year MBBS Clinical Clerkship

Surgery Allied

1. Orthopedics (2 Weeks)
2. Urology (2 Weeks)
3. Neurosurgery (2 Weeks)
4. Anaesthesia (2 Weeks)

ENT Cluster

1. ENT HFH (2 weeks)
2. ENT BBH (2 weeks)
3. ENT RTH (2 weeks)
4. COM.MED (2 weeks)

Medicine Allied

1. Nephrology (2 weeks)
2. Dermatology (2 weeks)
3. Fam.Med (2 weeks)
4. Psychiatry (2 weeks)

EYE Cluster

1. EYE HFH (2 weeks)
2. EYE BBH (2 weeks)
3. EYE RTH (2 weeks)
4. Pathology (2 weeks)

Preamble

This curriculum is according to the standards set by following organizations.

1. Foundation for Advancement of International Medical Education and Research (FAIMER)
2. Accreditation Council for Graduate Medical Education (ACGME)
3. World Federation for Medical Education (WFME)
4. Undergraduate Education Policy 2023 from Higher Education Commission (HEC)
5. Pakistan Medical and Dental Council (PMDC) guidelines for undergraduate Medical Education Curriculum (MBBS) 2022

It is based on **SPICES** model of educational strategies which is student centred, problem based, integrated, community oriented and systematic. *

Teacher centred	□	Student centred	S
Information oriented	□	Problem based	P
Discipline based	□	Integrated	I
Hospital based	□	Community based	C
Standardized curriculum	□	Elective programs	E
Opportunistic	□	Systematic	S

*Harden, R. M., Sowden, S., & Dunn, W. R. (1984). Educational strategies in curriculum development: The SPICES model. Medical Education, 18, 284-297. http://dx.doi.org/10.1111/j.1365-2923.1984.tb01024.x

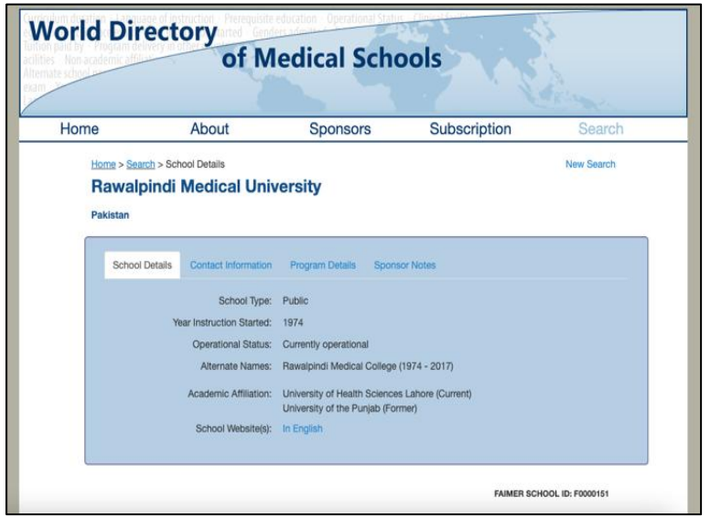
Reference Documents

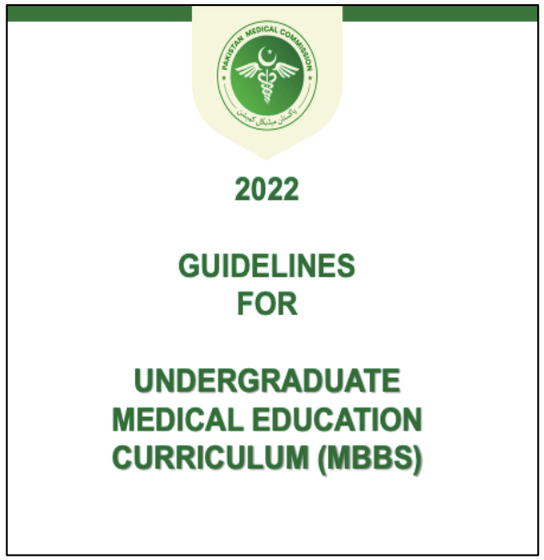
FAIMER™
A Division of Intealth

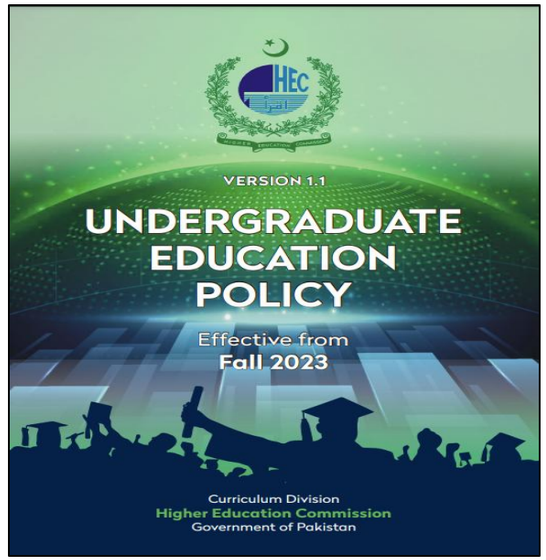
Foundation for Advancement of International Medical Education and Research

https://search.wdoms.org/?_gl=1*b2ddww*_ga*MTQyNTAwNzIxMi4xNzA2ODEwNjcx*_ga_R5BJZG5EYE*MTcwNjgzNjg3Ni4yLjAuMTcwNjgzNjg3Ni4wLjAuMA..

https://wfme.org/wp-content/uploads/2020/12/WFME-BME-Standards-2020.pdf



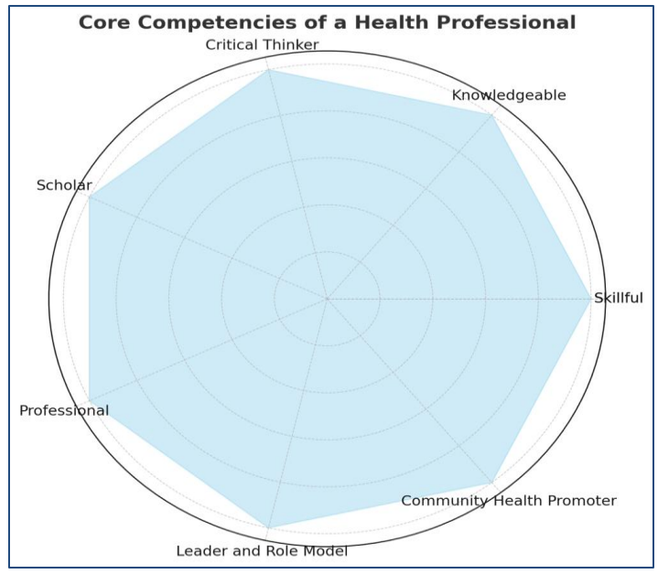


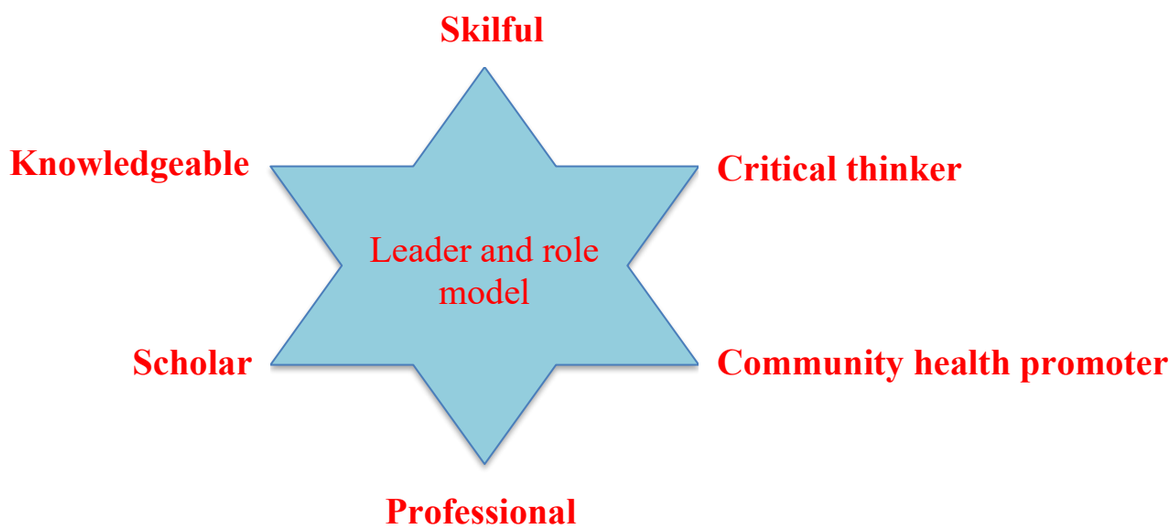


https://pmc.gov.pk/Documents/Examinations/Guidelines%20for%20Undergraduate%20Medical%20Education%20Curriculum%20(MBBS).pdf

https://www.hec.gov.pk/english/services/students/UEP/Documents/UGE-Policy.pdf

According to Pakistan Medical and Dental Council (PMDC) guidelines for undergraduate Medical Education Curriculum (MBBS) 2022





Seven Star Doctor

1. Skilful (Clinical, Cognitive and Patient Care Skills)

- Takes a focused history
- Perform physical and psychological examination
- Formulates a provisional diagnosis
- Orders appropriate investigations
- Performs various common procedures
- Debates, formulates management plans
- Manages time and prioritizes tasks
- Ensures patient safety.
- Advises and counsels, educates, recognizes and takes in to consideration issues of equality
- Describes and debates the reasons for the success or failures of various approaches

2. Knowledgeable (Scientific Knowledge for Good Medical Practice)

Differentiates, relates, applies and ensures knowledge is gained.

3. Community Health Promoter (Knowledge of Population Health and Healthcare Systems)

- Understands their role and be able to take appropriate action
- Determinants of health impact on the community
- Takes appropriate action for infectious non-communicable disease and injury prevention
- Evaluates national and global trends in morbidity and mortality
- Works as an effective member of health care team
- Adopts a multidisciplinary approach for health promotion
- Applies the basics of health systems
- Makes decisions for health care.

4. Critical thinker (Problem Solving and Reflective Practice)

- Use of information
- Critical data evaluation
- Dealing effectively with complexity, uncertainty and probability
- Regular reflection on their practice
- Initiating participating in or adopting to change, flexibility and problem-solving approach
- Commitment to quality assurance,
- Raising concerns about public risks and patient safety.

5. Professional (Behaviour and Professionalism)

- Life long, self-directed learner
- Demonstrates continuous learning
- Seeks peer feedback
- Manages information effectively
- Provides evidence of continuing career advancement
- Functions effectively as a mentor and a trainer, responds positively to appraisals and feedback
- Altruistic and empathetic
- Ethical, Collaborator, Communicator.

6. Scholar and Researcher

- Identifies a researchable problem and critically reviews the literature
- Phrases succinct research questions and formulates hypotheses
- Identifies the appropriate research design(s) in epidemiology and analytical tests in biostatistics to answer the research question.
- Collects, analyses and evaluates data, and presents results.
- Demonstrates ethics in conducting research and in ownership of intellectual property.

7. Leader and Role Model

- Demonstrates exemplary conduct and leadership potential in
  a. Advancing healthcare
  b. Enhancing medical education
  c. Initiating, participating in and adapting to change, using scientific evidence and approaches
  d. Enhancing the trust of the public in the medical profession by being exceptional role model at work and when away
  e. Accepting leadership roles
  f. Providing leadership in issues concerning society.

- Appreciate concepts & importance of
  a. Research
  b. Biomedical ethics
  c. Family medicine
  d. Artificial Intelligence

This module will run in 6 weeks duration. The content will be covered through introduction of topics. Instructional strategies are given in the time table and learning objectives are given in the study guides. Study guides will be uploaded on the university website.

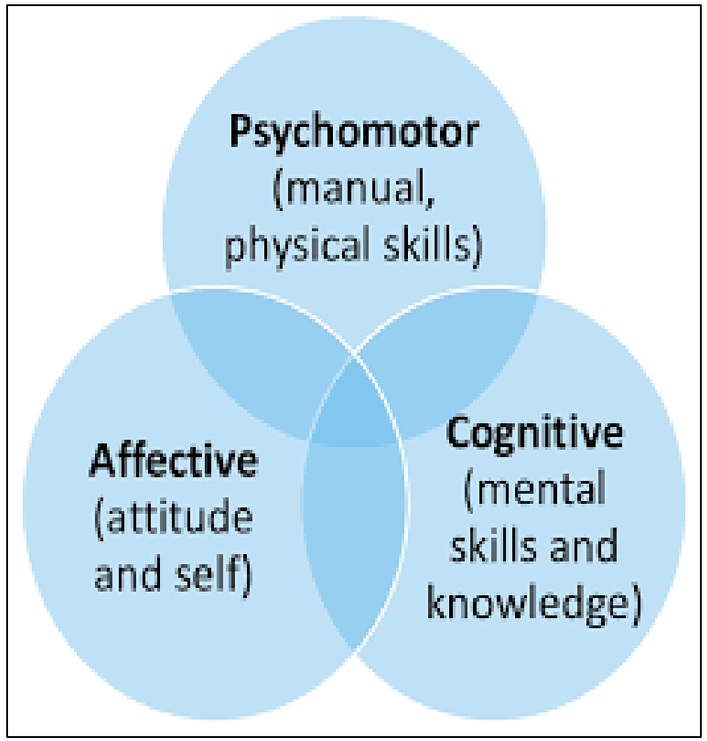
Integration of Disciplines in Family Medicine Block / Spirally Integrated Disciplines

Study Guide: Terms & Abbreviations

Contents

Tables & Figures

Domains of learning according to Blooms Taxonomy



Sr. #	Abbreviation	Domains of learning
1.	C	**Cognitive Domain:** knowledge and mental skills.
	• C1	Remembering
	• C2	Understanding
	• C3	Applying
	• C4	Analysing
	• C5	Evaluating
	• C6	Creating
2.	P	**Psychomotor Domain:** motor skills.
	• P1	Imitation
	• P2	Manipulation
	• P3	Precision
	• P4	Articulation
	• P5	Naturalization
3.	A	**Affective Domain:** feelings, values, dispositions, attitudes, etc
	• A1	Receive
	• A2	Respond
	• A3	Value
	• A4	Organize
	• A5	Internalize

SECTION-I

Teaching and Learning Methodologies / Strategies

1. Large Group Interactive Session (LGIS)

The large group interactive session is structured format of Prof Umar Model of Integrated lecture. It will be followed for delivery of all LGIS. Lecturer will introduce a topic or common clinical condition and explain the underlying phenomena through questions, pictures, videos of patients, interviews and exercises, etc. Students are actively involved in the learning process.

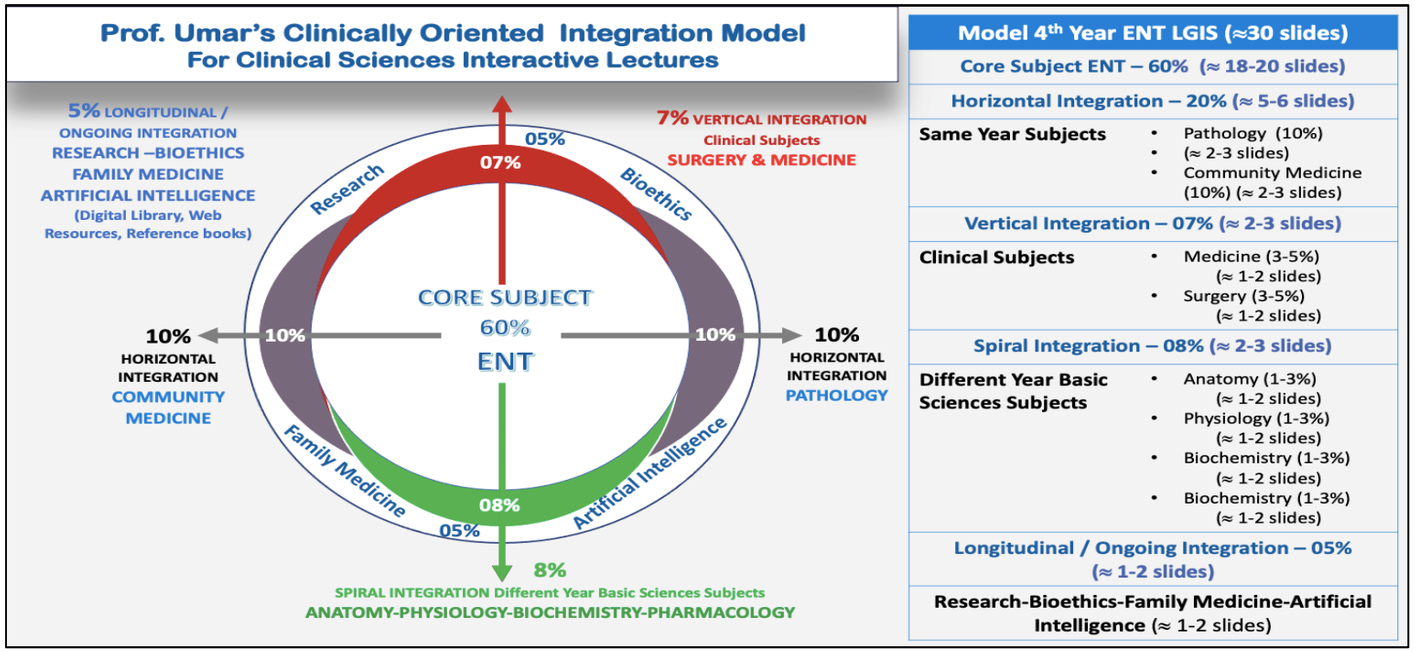


Figure 1. Prof Umar's Model of Integrated Lecture

2. Small Group Discussion (SGD)

This format helps students to clarify concepts acquire skills and attitudes. Sessions are structured with the help of specific exercises such as patient case, interviews or discussion topics or power point presentations. Students exchange opinions and apply knowledge gained from lectures, SGDs and self-study. The facilitator role is to ask probing questions, summarize and helps to clarify the concept.

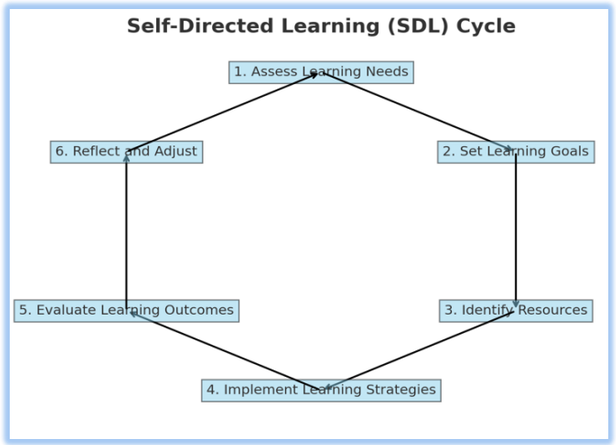
Step 1	Sharing of Learning objectives by using students Study guides	First 5 minutes
Step 2	Asking students pre-planned questions from previous teaching session to develop co-relation (these questions will be standardized)	5minutes
Step 3	Students divided into groups of three and allocation of learning Objectives	5minutes
Step 4	ACTIVITY: Students will discuss the learning objectives among Themselves	15 minutes
Step 5	Each group of students will present its learning objectives	20 min
Step 6	Discussion of learning content in the main group	30min
Step 7	Clarification of concept by the facilitator by asking structured questions from learning content	15 min
Step 8	Questions on core concepts	
Step 9	Questions on horizontal integration	
Step 10	Questions on vertical integration	
Step 11	Questions on related research article	
Step 12	Questions on related ethics content	
Step 13	Students Assessment on online MS teams (5 MCQs)	5 min
Step 14	Summarization of main points by the facilitator	5 min
Step 15	Students feedback on the SGD and entry into logbook	5 min
Step 16	Ending remarks	

Table 2. Standardization of teaching content in Small Group Discussion

S.No	Topics	Approximate %
1	**Title Of SGD**	
2	**Learning Objectives from Study Guides**	
3	**Horizontal Integration**	**5%+5% = 10%**
4	**Core Concepts of the Topic**	**70%**
5	**Vertical Integration**	**10%**
6	**Related Advance Research points**	**3%**
7	**Biomedical Ethical points**	**2%**
8	**Spiral integration**	**5%**

Table 3. Steps of taking Small Group Discussions

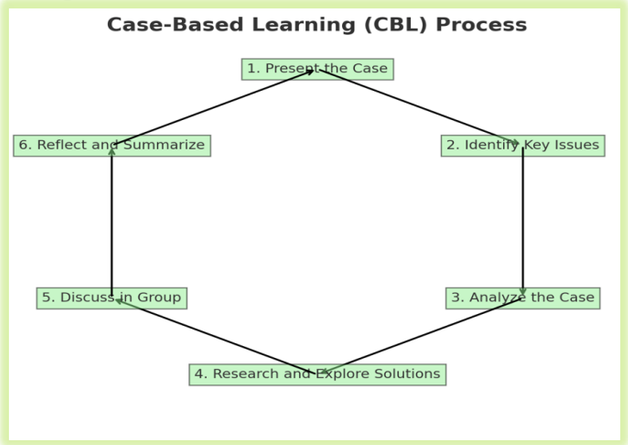
3. Self-Directed Learning (SDL)



- Self- directed learning is a process where students take primary charge of planning, continuing and evaluating their learning experiences.
- Time home assignment
- Learning objectives will be defined
- Learning resources will be given to students = Text book (page no), web site
- Assessment:
  i. Online on LMS (Mid module/ end of Module)
  ii. OSPE station

4. Case Based Learning (CBL)

- It's a learner centered model which engages students in discussion of specific scenarios that resemble typically are real world examples.
- Case scenario will be given to the students
- Will engage students in discussion of specific scenarios that resemble or typically are real-world examples.
- Learning objectives will be given to the students and will be based on:
  i. To provide students with a relevant opportunity to see theory in practice
  ii. Require students to analyze data in order to reach a conclusion.
  iii. Develop analytic, communicative and collaborative skills along with content knowledge.



SECTION-II

Learning Objectives, Themes, Trans disciplinary Joint sessions

Contents

- Introduction to RMU and Disciplines
- Medical Education and Integrated Disciplines
- Horizontally Integrated Basic Sciences (Anatomy, Physiology, Pharmacology, Pathology,
- Community Medicine)
- Large Group Interactive Session:
- Dermatology (LGIS)
- Small Group Discussions
- Dermatology (SGD)
- Self-Directed Topic, Learning Objectives & References
- Dermatology (SDL)
- Trans disciplinary Joint sessions

Orientation Day Introduction to New Teaching Block & Hospital Disciplines

Medical Education And Integrated Disciplines			
Topic	**Facilitator**	**Learning Objectives**	**Teaching Strategy**
Introduction to RMU and Allied Hospitals	**Vice Chancellor**	**Honourable VC will welcome and introduce the University and Allied Hospitals.**	
The students will be able to:			
Introduction to Medical Education Department	**Assistant Director DME**	• **Introduce DME** • **Define Medical Education** • **Discuss its role** • **Appreciate role of DME in their curriculum** • **Appreciate role of DME in attendance monitoring** • **Illustrate the application** • **Leave submission process**	**LGIS**
Introduction to Pre-Clinical Sciences	**Implementation In charge 4th Year MBBS**	• **Introduction to Departments** • **Introduction to Hospitals** • **Discussion about Teaching & Learning strategies** • **Assessment Model** • **Discipline**	**LGIS**
Introduction to Medicine & Allied	**Lecture by Dean of Medicine & Allied**	• **Define medicine** • **Discuss History of medicine** • **Describe Islamic concepts of medicine** • **Identify Basic sciences involved in medicine** • **Identify Clinical subjects and their role** • **Describe practice of medicine** • **Describe the process**	**LGIS**

Symptom-Oriented Integrated Clinical Clerkship (SOICC) Family Medicine

RATIONALE OF THE FAMILY MEDICINE CLINICAL CLERKSHIP PROGRAM

The 4th Year MBBS Family Medicine Clinical Clerkship is structured around some high-frequency presenting complaints Headache, body aches, fever, shortness of breath, weight issues and acute abdomen pain, Lower urinary tract symptoms. This thematic, symptom-oriented design reflects authentic clinical practice, where patients present with complaints rather than organ-based categories. This model promotes development of clinical reasoning by encouraging students to construct illness scripts based on presenting symptoms, differentiate common from serious conditions, and identify red-flag features requiring urgent referral. The structure supports hypothesis-driven diagnostic thinking rather than rote memorization. The clerkship operates within a workplace-based, competency-driven framework. Students progressively advance from foundational examination skills to integrated clinical decision-making across three hospital settings. The spiral progression ensures increasing complexity, contextual exposure, and refinement of skills in real patient environments.

Educationally, the program aligns with:

- **Harden's Integration Ladder (Levels 9–11)** by integrating basic sciences with clinical disciplines and encouraging interdisciplinary reasoning.
- **Miller's Pyramid**, progressing from "Knows How" to "Shows How" and approaching "Does" under supervision.
- **Competency-Based Medical Education (CBME)** through observable, measurable clinical competencies.
- **Patient-centred care principles**, emphasizing communication, professionalism, and ethical responsibility.

GENERAL LEARNING OBJECTIVES

Family Medicine Integrated Clinical Clerkship (4th Year MBBS)

By the end of the 2-week clerkship, students will be able to:

Learning Objective	Competency Type	Domain Description
1. History Taking (Headache, unconscious patient, seizures, fever, SOB etc.)	**Psychomotor / Cognitive**	Communication skills (P) backed by clinical knowledge (C).
2. Physical Examination (GPE, Focused systemic examination, etc.)	**Psychomotor (P)**	The manual dexterity and technical ability to perform exams.
3. Differential Diagnosis	**Cognitive (C)**	High-level mental synthesis and logical reasoning.
4. Red-Flag Recognition	**Cognitive (C)**	Pattern recognition and analytical thinking.
5. Emergency Recognition (Hypertensive crisis, DKA, Head injury, Trauma)	**Cognitive (C)**	Rapid clinical assessment and knowledge of urgency.
6. Investigation Planning/Interpretation	**Cognitive (C)**	Applying scientific knowledge to diagnostic data.

Furthermore, the selected themes reflect local disease burden and public health relevance. The clerkship therefore ensures contextual relevance, integration, progressive skill acquisition, and safe clinical practice readiness.

7. Management Strategies	**Cognitive (C)**	Knowledge of protocols and treatment pathways.
8. Urgent Referral Identification	**Cognitive / Affective**	Knowing the limit of one's skill (C) and prioritizing safety (A).
9. Antibiotic Stewardship	**Cognitive / Affective**	Medical knowledge (C) and ethical responsibility (A).
10. Ward Rounds/Minor Procedures	**Psychomotor (P)**	Hands-on participation and observation of clinical tasks.
11. Patient Counselling	**Affective / Psychomotor**	Communication skills (P) and empathy/patience (A).
12. Breaking Bad News (Malignancy)	**Affective (A)**	Emotional intelligence and sensitive communication.
13. Confidentiality & Conduct	**Affective (A)**	Professional ethics, values, and integrity.
14. Basic Science Integration	**Cognitive (C)**	Deep theoretical understanding of anatomy and pathology.
15. Multidisciplinary Collaboration	**Affective (A)**	Interpersonal skills and teamwork values.

Theme	Core Competency Emphasis
Theme 1 – Patient presenting Headache and Dizziness	History + Examination skills + red flags
Theme 2 – Patient presenting with Excessive thirst and frequent urination along with fatigue	History + Examination skills + red flags + Differential diagnosis + emergency management
Theme 3 – Patient presenting with weight gain, SOB and unhealthy lifestyle	History + Examination skills + red flags + Differential diagnosis
Theme 4 – Patient presenting with weakness of Right arm and slurred speech	History + Examination skills + red flags + Differential diagnosis + Preventive Medicine + emergency management
Theme 5 – Chronic smoker presenting with cough with sputum, SOB	History + Examination skills + red flags Differential diagnosis + Preventive Medicine
Theme 6– Patient presenting Fever, Malaise and loss of Appetite	History + Examination skills + red flags Differential diagnosis + Preventive Medicine
Theme 7–Patient presenting with hoarseness of voice, weight issues and sleep disturbance.	History + Examination skills + red flags Differential diagnosis + Emergency Medicine

WEEK 1 – THEME 1, 2, 3 & 4

- Patient presenting Headache and Dizziness
- Patient presenting with Excessive thirst and frequent urination along with fatigue
- Patient presenting with weight gain, SOB and unhealthy lifestyle
- Patient presenting with weakness of Right arm and slurred speech

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
Day 1	A Middle-Aged Woman, homemaker, presents to the Family Medicine clinic with complaints of recurrent headaches and occasional dizziness for the past 2 months.	History Taking • Headache characteristics: • Associated symptoms • Red flags: • Dizziness details: • Risk factors: hypertension, diabetes, anemia, stress, sleep deprivation. • Lifestyle: diet, hydration, caffeine intake, household responsibilities, psychosocial stressor	**Steps 1–4: Applied anatomy & physiology; Step 5: Temporal coordination**	**Family Medicine Anatomy, Physiology**	Take a focused history and perform a proper physical examination, including neuro and otorhinology exam including repeated BP measurements. Identify risk factors for hypertension such as obesity, high salt intake, family history, and sedentary lifestyle. Management includes lifestyle modification and antihypertensive medication if needed, with regular follow-up.	• Holistic care: consider psychosocial stressors of homemakers (workload, family responsibilities). • Empathy: validate her symptoms, avoid dismissing as "just stress." • Continuity of care: follow-up for chronic conditions. • Preventive orientation: screening for hypertension, diabetes, anemia.
Day 2	A 45-year-old school teacher,	➢ Risk Factors for Type 2 Diabetes Mellitus	**Level 8–9: Clinical**	**Family Medicine**	➢ Clinical Skills • History-taking focused	• Preventive Orientation: Valuing

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
	presents to the Family Medicine clinic with complaints of excessive thirst, frequent urination, and generalized fatigue for the past 3 months. He has gained weight over the last few years and leads a sedentary lifestyle.	• Age (middle-aged). • Sedentary lifestyle. • Weight gain/obesity. • Possible dietary habits linked to occupation and lifestyle. ➢ Clinical Presentation • Classic triad: polyuria, polydipsia, fatigue. • Chronic onset (3 months). • Need to confirm with fasting blood glucose, HbA1c. ➢ Preventive Medicine • Lifestyle modification: diet, exercise, weight reduction. • Early detection to prevent complications (neuropathy, nephropathy, retinopathy). • Screening in high-risk populations. ➢ Patient-Centered	**integration & reasoning**	**Emergency Medicine, Neurology, Anatomy, Physiology**	on lifestyle and risk factors. • Physical exam: BMI, waist circumference, BP. • Ordering and interpreting blood glucose/HbA1c. ➢ Communication Skills • Explaining diabetes risk in simple terms. • Motivating lifestyle changes (exercise, diet). • Negotiating realistic goals within teacher's daily routine. ➢ Educational Skills • Using charts for glycemic index, exercise schedules. • Involving family in dietary changes.	early detection and lifestyle modification. • Empathy: Understanding teacher's workload and barriers to exercise. • Collaboration: Working with nutritionists, endocrinologists, psychologists. • Professional Responsibility: Screening and counselling at-risk patients.

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
		Care • Addressing barriers for a school teacher (busy schedule, stress eating, sedentary work). • Empowering self-monitoring and long-term adherence.				
Day 3	A 42-year-old businessman, presents to the Family Medicine clinic for a routine check-up. He reports increasing waist size, occasional fatigue, and shortness of breath on exertion. He has a sedentary lifestyle, eats fast food frequently, and consumes 2–3 soft drinks daily.	➢ **Definition of Metabolic Syndrome** ➢ **History & Examination** • **History**: diet, physical activity, family history of diabetes/heart disease, alcohol intake, sleep pattern. • **Examination**: waist circumference, BMI, BP, signs of insulin resistance (acanthosis nigricans),	**Level 10–11: Interdisciplinary reasoning & management planning management planning**	**Family Medicine, Radiology, Pathology, Pharmacology**	• Accurate waist circumference measurement. • BP measurement. • Counseling on diet and exercise. • Motivational interviewing for lifestyle change. • Risk stratification for cardiovascular disease.	• **Holistic care**: address stress, work-life balance, family responsibilities. • **Empathy**: avoid judgment, encourage small achievable steps. • **Continuity of care**: regular follow-up for monitoring. • **Preventive orientation**: emphasize long-term risks and benefits of lifestyle change.

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
		cardiovascular exam. ➢ **Investigations** • Fasting blood glucose / HbA1c. • Lipid profile (TG, HDL, LDL, total cholesterol). • Blood pressure monitoring. • ECG (ischemic changes). • Optional: liver function (NAFLD), uric acid. ➢ **Management Principles** • **Lifestyle modification (cornerstone)**: ○ Diet: reduce fast food, sugary drinks, increase fruits/vegetables, whole grains. ○ Exercise: ≥150 min/week of				

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
		moderate activity. o Weight reduction: aim for 5–10% loss. • **Medical therapy (if indicated)**: o Antihypertensives for BP. o Statins for dyslipidemia. o Metformin for impaired glucose tolerance. • **Preventive care**: screen for diabetes, cardiovascular disease, fatty liver.				
Day 4	A 68-year-old retired banker, is brought to the Family Medicine clinic by his son after being found unconscious at home. He had complained of sudden weakness in his right arm and slurred speech earlier in the day.	➢ **Stroke definition**: Sudden onset of focal neurological deficit due to vascular cause. ➢ **Types**: Ischemic (thrombotic/embolic) vs hemorrhagic. ➢ **Risk factors**: Hypertension, diabetes, smoking, atrial fibrillation, hyperlipidemia, age.	**Level 9–10: Diagnostic reasoning & investigation integration**	**Family Medicine, Emergency Medicine, Radiology, Anatomy, Physiology,**	Rapid neurological assessment (FAST: Face, Arm, Speech, Time). • Glasgow Coma Scale scoring. • BP measurement and cardiovascular exam. • Recognizing stroke mimics. • Communicating urgency to family and	• **Empathy**: support patient's family during crisis. • **Urgency**: emphasize "time is brain"—early intervention saves neurons. • **Teamwork**:

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
		➢ **Clinical features**: Hemiparesis, facial droop, speech disturbance, altered consciousness. ➢ **Complications**: Aspiration pneumonia, cerebral edema, recurrent stroke. ➢ **Time is brain:**			healthcare team.	coordinate with neurology, radiology, emergency staff. • **Preventive orientation**: counsel on risk factor control after stabilization. **pathy, sensitive communication regarding malignancy**

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
Family Medicine (Primary Discipline)	1. History-taking & Examination: Perform focused, theme-specific histories and examinations for common Family Medicine presentations. 2. Clinical Reasoning: Identify risk factors, generate differential diagnoses, and plan appropriate investigations. 3. Communication: Counsel patients effectively on lifestyle modification, disease prevention, and management. 4. Professional Attitudes: Demonstrate empathy, preventive orientation, urgency in emergencies, and collaborative multidisciplinary care.
Radiology	• Interpret Chest Xray (Cardiac size) ultrasound KUB (RAS). • Identify indication for HRCT chest. • Correlate imaging findings with disease severity.

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
	• Justify imaging selection during case-based discussion.
Pathology	• Correlate clinical findings with possible histopathology • Interpret relevant investigations.
Pharmacology	• Explain mechanism of different drug groups like ACEI, ARBs, beta-blockers, diuretics, oral hypoglycemic, antiplatelet therapy and SABA/LABA. • Select appropriate class for the patient therapy. • Counsel regarding medication side effects.
Medicine/Nephrology/Pulmonology	• Assess renal, cardiac, neurological function in hypertension and Diabetes. • Assess FEV1/FVC in both constrictive and restrictive lung diseases.
Emergency Medicine	• Recognize hypertensive crisis, DKA, stroke as medical emergency. • Referral before end organ damage.

WEEK 2 – THEME 5 & 6

- Chronic smoker presenting with cough with sputum, SOB
- Patient presenting Fever, Malaise and loss of Appetite
- Patient presenting with hoarseness of voice, weight issues and sleep disturbance.

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
Day 1	A 28-year-old shopkeeper presents to the Family Medicine clinic with complaints of cough and shortness of breath for the past 2 weeks. He smokes 5–6 cigarettes daily for the last 6 years	➢ Structured Approach to Common Respiratory problems including asthma and COPD. ➢ Respiratory Anatomy & Physiology • Functional anatomy of lungs, pleura, airways. • Physiology of gas exchange and ventilation. ➢ Common Respiratory Diseases • Asthma: pathophysiology, triggers, acute vs chronic management. • COPD: risk factors (smoking), progression, pharmacological and non-pharmacological treatment. • Pneumonia: classification (community-acquired, hospital-acquired), microbiology, antibiotic choices. • Tuberculosis: epidemiology in Pakistan, diagnosis (sputum AFB, GeneXpert), DOTS strategy.	**Level 9–10: Interdisciplinary clinical correlation**	**Family Medicine, Radiology, Anatomy, Physiology, Pathology, Pharmacology, Community Medicine**	➢ History Taking • Elicit symptoms: cough, sputum, hemoptysis, dyspnea, wheeze, chest pain. • Risk factors: smoking, occupational exposure, TB contact. ➢ Physical Examination • Inspection: chest shape, respiratory rate, cyanosis. • Palpation: tracheal position, chest expansion. • Percussion: resonance, dullness. • Auscultation: breath sounds, added sounds (wheeze, crackles). ➢ Procedural Skills • Nebulizer administration. • Inhaler demonstration (MDI, DPI). • Oxygen delivery methods (nasal cannula, mask). • Assisting in pleural tap or chest tube insertion.	➢ Patient-Centered Care • Empathy for patients with chronic breathlessness. • Clear communication about diagnosis and treatment. ➢ Ethical Practice • Respect confidentiality, especially in TB and HIV cases. • Rational use of antibiotics to prevent resistance. ➢ Teamwork • Collaborating with nurses, respiratory therapists, and public health workers. ➢ Preventive

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
		• Pleural Effusion & Pneumothorax: causes, clinical signs, emergency management.			➢ Interpretation Skills • Reading chest X-rays and spirometry reports. • Identifying ABG abnormalities.	Orientation • Counseling on smoking cessation. • Educating patients about inhaler use and adherence. ➢ Global & Local Health Awareness • Understanding burden of TB and COPD in Pakistan. • Awareness of public health programs (DOTS for TB, vaccination drives).
Day 2	A 22-year-old university student, presents with complaints of fever for the past 10 days, associated with abdominal discomfort, malaise, and loss of appetite. He reports that the fever is high-grade,	• **Fever pattern**: step-ladder or sustained, evening rise. • **GI symptoms**: abdominal pain, constipation/diarrhea, bloating. • **Systemic**: malaise, anorexia, headache. • **Exposure risks**: contaminated food/water, poor sanitation, contact with	**Steps 1–4: Applied anatomy (kidney–ureter–bladder) & pathology; Step 7: Clinical correlation**	**Family Medicine, Radiology, Anatomy, Physiology, Pathology, Pharmacology, Community**	• Eliciting fever history (pattern, duration, associated symptoms). • Abdominal examination (hepatosplenomegaly, tenderness). • Recognizing rose spots. • Ordering and interpreting blood cultures. • Counselling on hygiene	• Empathy: prolonged fever causes anxiety in young patients. • Holistic care: consider nutrition, hydration, and psychosocial impact (missed classes, exams).

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
	rises in the evening, and is accompanied by sweating.	typhoid cases ➢ **Differential Diagnosis** • **Enteric (Typhoid) fever** – most likely. • Malaria (esp. falciparum). • Tuberculosis (esp. abdominal). • Viral hepatitis. • Other prolonged fevers (brucellosis, endocarditis). **Investigations** • CBC: leukopenia, relative lymphocytosis. • Blood culture (gold standard, especially in first week). • Widal test (limited specificity, used in endemic areas). • LFTs (may show mild derangement). • Ultrasound abdomen (hepatosplenomegaly) ➢ **Management** • **Supportive care**: hydration, nutrition, antipyretics. • **Antibiotics** (based on local resistance patterns):		**Medicine**	and prevention.	• Preventive orientation: emphasize sanitation, vaccination, safe food practices. • Teamwork: coordinate with lab, nursing staff, and public health authorities.

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
		• Ceftriaxone, azithromycin, or fluoroquinolones (if sensitive). ➢ **Monitor for complications**: Intestinal perforation, hemorrhage, encephalopathy. ➢ **Preventive advice**: Safe drinking water, hand hygiene, vaccination (Typhoid conjugate vaccine).				
Day 3	A **35-year-old woman** presents with complaints of **weight loss despite good appetite, palpitations, heat intolerance, and tremors** for 3 months. On examination, she has **tachycardia, fine tremors, moist skin, and a diffuse goiter**.	• T**hyroid physiology**: role of T3, T4, and TSH. • **Common thyroid disorders**: • Hyperthyroidism (Graves' disease, toxic multinodular goiter). • Hypothyroidism (Hashimoto's thyroiditis, iodine deficiency). • Goiter (diffuse, multinodular, solitary nodule). • **Clinical features**: • Hyperthyroidism → weight loss, tremors, palpitations, heat intolerance, diarrhea. • Hypothyroidism → weight gain, cold intolerance,	**Level 10–11: Interdisciplinary reasoning & management planning**	**Family Medicine, Endocrinology, Emergency Medicine, Radiology, Anatomy, Physiology, Pathology, Pharmacology, Community Medicine**	• **History taking**: systemic symptoms (weight change, bowel habits, menstrual irregularities, mood changes). • **Physical examination**: • Thyroid palpation (size, consistency, nodules). • Signs of hyperthyroidism (tachycardia, tremors, lid lag, exophthalmos). • Signs of hypothyroidism (dry skin, bradycardia, delayed reflexes). • **Procedural skills**: • BP and pulse measurement. • ECG interpretation (AF in hyperthyroidism).	• **Empathy**: thyroid disorders often cause distress due to cosmetic changes (goiter, eye signs) and chronic symptoms. • **Communication**: explain disease in simple terms, reassure about treatment options. • **Preventive orientation**: emphasize iodine sufficiency, regular follow-up, medication adherence. • **Ethics**: avoid

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
		constipation, lethargy. • **Investigations**: • Thyroid function tests (TSH, Free T4, Free T3). • Ultrasound thyroid. • Thyroid antibodies (TSI, anti-TPO). • Radioactive iodine uptake (in selected cases). • **Complications**: thyroid storm, atrial fibrillation, osteoporosis (hyperthyroidism); myxedema coma (hypothyroidism).			• Demonstrating thyroid examination technique. • **Interpretation skills**: reading thyroid function tests, ultrasound	unnecessary investigations, respect confidentiality. • **Teamwork**: collaborate with endocrinologists, surgeons, ophthalmologists (for Graves' eye disease).

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
Family Medicine (Primary Discipline)	1. History-taking & Examination: Perform focused histories and examinations for respiratory, systemic, and ENT/endocrine presentations. 2. Clinical Reasoning: Identify risk factors, generate differential diagnoses, and plan investigations. 3. Communication: Counsel patients on lifestyle changes, smoking cessation, and preventive strategies. 4. Professional Attitudes: Demonstrate empathy, non-judgmental care, urgency in serious conditions, and collaborative multidisciplinary practice.
Radiology	1. Interpret CXR (mass, infection,) 2. Identify indications for HRCT chest 3. Correlate imaging findings with clinical suspicion
Pathology	1. Interpret investigations 2. Understand pathological differences between infection, mass, in different thyroid Presentation 3. Correlate clinical findings with likely pathology
Oncology (Integration Level)	1. Identify high-risk features for lung malignancy 2. Understand principles of staging investigations 3. Counsel regarding need for Bronchoscopy and biopsy

This clerkship achieves:

- **Level 1–4** → Foundational applied sciences
- **Level 7–8** → Temporal coordination
- **Level 9** → Multidisciplinary integration
- **Level 10** → Interdisciplinary problem-solving
- **Level 11** → Transdisciplinary clinical decision-making

Trans-Disciplinary Clinical Connect Session – FAMILY MEDICINE THEME

Week 1 Integrated Case

Clinical Case Scenario

"A **55-year-old woman**, known diabetic and hypertensive, presents with **fever, dysuria, and flank pain** for 3 days. She is on oral hypoglycemics and antihypertensives.

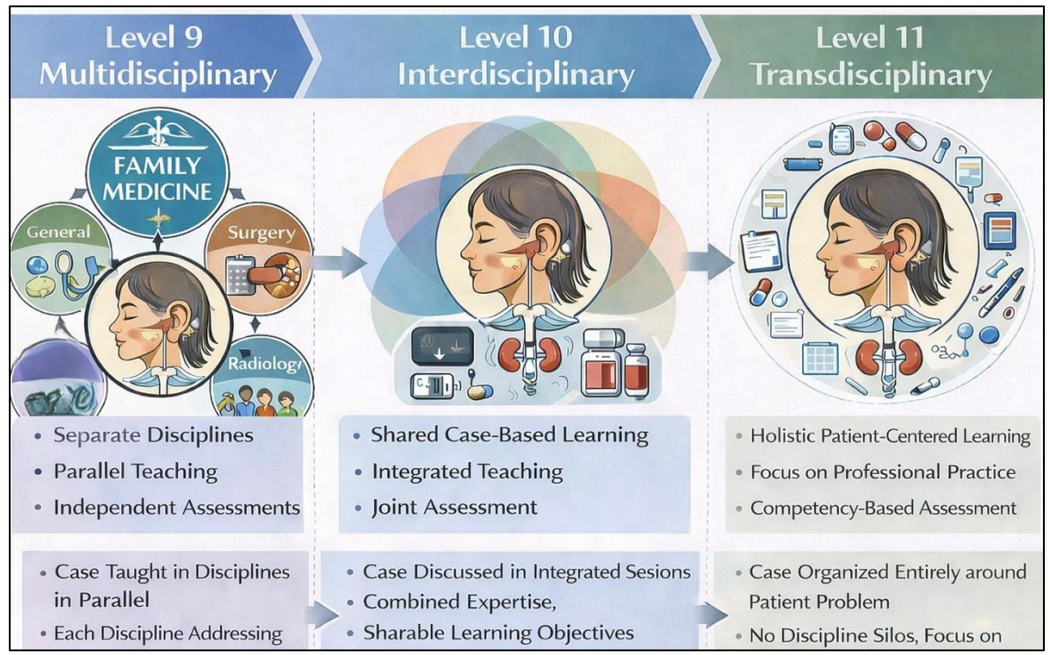
On examination:

- Temperature: 101°F
- BP: 160/95 mmHg
- Pulse: 98/min
- Suprapubic tenderness and right renal angle tenderness present.
- BMI: 29 kg/m²

Investigations show:

1. **U**rine Analysis
- Protein: +1
- Glucose: +2 (reflecting poor glycemic control)
- WBCs: 25–30 / HPF
- RBCs: 5–7 / HPF
- Nitrites: positive

2. BSR 280



Student Task (Problem-Based Trigger)
Students are asked to:

1. **Identify the problem list** from the scenario.
2. **Formulate differential diagnoses** for fever and urinary symptoms in a diabetic patient.
3. **Plan appropriate investigations** to confirm diagnosis and assess comorbidities.
4. **Suggest a management plan** (acute infection + chronic disease control).
5. **Discuss preventive strategies** to reduce recurrence of UTI in diabetics.
6. **Reflect on Holistic approach**: continuity of care, lifestyle counselling, and coordination with other specialties.

What Makes This RMU Level-12?

- No subject-based headings.
- Knowledge domains are embedded within clinical reasoning.
- Organizing principles are the patient problem, not disciplines.
- Learning mimics authentic clinical decision-making.

Students Integrate:

- Understand how diabetes and hypertension complicate infections.
- History taking, physical exam (renal angle tenderness), lab interpretation, rational antibiotic selection.
- Empathy for chronic disease patients, communication about adherence, preventive orientation.
- Imaging interpretation

- Medical optimization of comorbidities
- Surgical decision-making
- Ethics and communication

Trans-Disciplinary Clinical Connect Session – Family Medicine THEME

Subject / Discipline	Nature of Contribution	Approximate Integration Weight (%)
Radiology	• Provides imaging (Ultrasound KUB, CT if needed). • Helps rule out obstruction, stones, or abscess	15%
Urology	• Leads on **diagnosis and treatment of UTI**. • Guides antibiotic choice based on culture and sensitivity. • Evaluates for complicated UTI (pyelonephritis, obstruction, abscess).	20%
Pharmacology	• Ensures **rational drug use**. • Reviews drug interactions (antibiotics with antihypertensive or hypoglycemic). • Teaches students about dose adjustments in renal impairment.	10%
Internal Medicine	• Focuses on **diabetes and hypertension control**. • Adjusts medications based on renal function and infection status. • Monitors for complications (diabetic nephropathy, hypertensive nephropathy). • Diabetes & hypertension control, perioperative optimization, infection management	15%
Family Medicine	• Acts as the **coordinator and first contact**. • Ensures continuity of care, medication adherence, lifestyle counselling. • Integrates chronic disease management with acute infection care.	40%

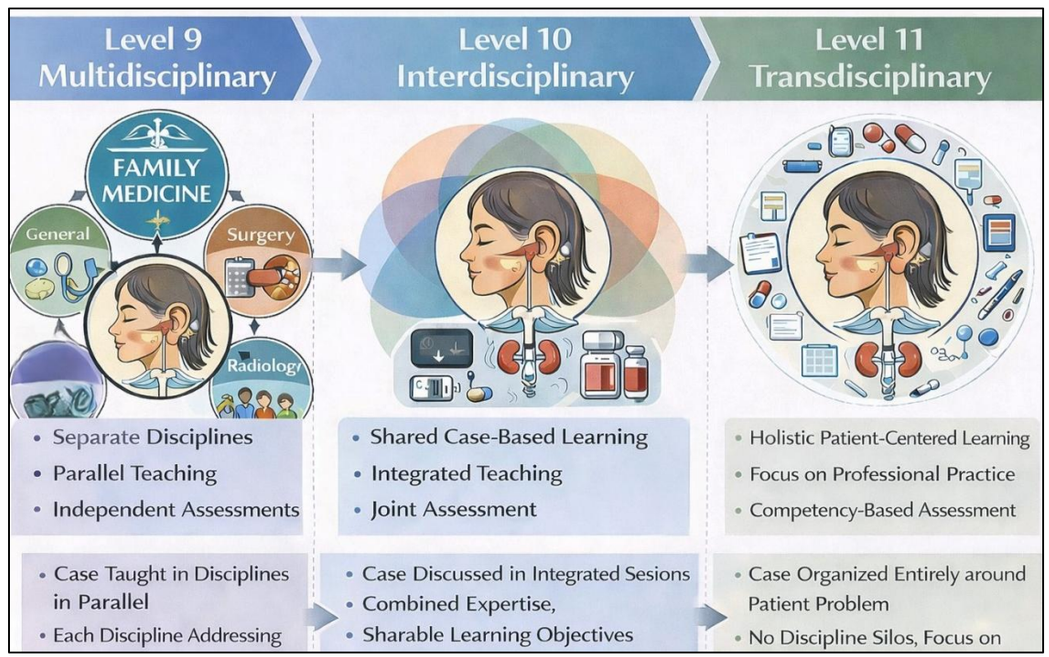
Trans-Disciplinary Clinical Connect Session – FAMILY MEDICINE THEME

Theme: Low Back Ache
Week 2 Integrated Case

Clinical Case Scenario

During a routine visit to the Family Medicine clinic, Mr. Imran reports worsening back pain and fatigue. His gait is slow and stiff.

On examination, he has tenderness over the lumbar spine, reduced range of motion, and early signs of lower limb weakness. His ESR is elevated, and a chest X-ray shows fibrotic changes. MRI spine reveals vertebral destruction and paravertebral abscess.



On examination:

➢ **Systemic:**
- Low-grade fever, especially evening rise
- Night sweats
- Weight loss, anorexia
- Generalized malaise and fatigue
- Signs of chronic illness (pallor, cachexia)
- BMI: <20 kg/m² (underweight).
- Posture: slouched sitting posture, lumbar lordosis exaggerated.

➢ **Local Examination Findings**
- Local (Spinal/Neurological):
- Spinal tenderness (usually thoracic or lumbar vertebrae)
- Restricted spinal movement, stiffness
- Gibbus deformity (angular kyphosis) in advanced cases
- Paravertebral swelling or abscess (palpable in some cases)
- Neurological deficits: weakness, paresthesia, spasticity, exaggerated reflexes, bladder/bowel involvement (if cord compression present)

➢ **Red Flags:**

- Rapidly progressive neurological deficits (paraplegia, bladder/bowel dysfunction)
- Severe spinal deformity (kyphosis/gibbus)
- Persistent or worsening pain despite conservative measures
- Constitutional symptoms with immunocompromised state (HIV, diabetes)
- Evidence of systemic spread (pulmonary TB, disseminated TB)
- Cold abscess with sinus formation

Investigations show:

- CBC, ESR, CRP (markers of inflammation
- X-rays LS spine Showing fracture of lumber vertebra L5
- MRI spine (gold standard for early detection of vertebral destruction, abscess, cord compression)

Student Task (Problem-Based Trigger)
Students are asked to:

Identify key clinical concerns in this patient.

1. Identify the **problem list** (chronic low back pain, low grade fever, weight loss and night sweats).
2. Formulate **differential diagnoses** (mechanical vs red flag causes).
3. Plan **appropriate investigations** (clinical diagnosis, imaging if red flags).
4. Suggest a **management plan** (ATT, dietary management, calcium and vitamin-D supplement).
5. Discuss **preventive strategies** (ergonomics, screening close relatives).
6. Reflect on the **Holistic** continuity, comprehensiveness, patient-centred care.
7. Counsel patients regarding long-term ATT and pain control.
8. Suggest preventive strategies for chronic low back ache.

What Makes This RMU Level-12?

- No subject-based headings.

- Knowledge domains are embedded within clinical reasoning.
- Organizing principles are the patient problem, not disciplines.
- Learning mimics authentic clinical decision-making.

Students Integrate:

- Trans disciplinary integration
- Clinical reasoning in Low back ache with fever and weight loss
- Imaging interpretation
- Medical optimization of comorbidities
- Surgical decision-making
- Ethics and communication
- Preventive medicine

Trans-Disciplinary Clinical Connect Session –FAMILY MEDICINE THEME

Subject / Discipline	Nature of Contribution	Approximate Integration Weight (%)
Radiology	• Provides imaging support: • X-ray for degenerative changes. • MRI for disc prolapse, nerve root compression, or red flag causes. • Helps differentiate benign mechanical pain from serious pathology.	10%
Orthopedics	• Focuses on **mechanical causes**: muscle strain, degenerative disc disease, posture-related issues. • Guides physiotherapy, posture correction, and conservative management. • Manages surgical options if severe degenerative disease or instability.	20%
Family Medicine	• First contact physician, coordinates care. • Provides holistic assessment (biological, psychological, social). • Ensures continuity and preventive counseling (ergonomics, exercise, weight control). • Screens for red flags and decides when referral is needed.	40%
Physiotherapy	• Addresses **workplace ergonomics** and occupational health. • Promotes **exercise programs, lifestyle modification, and weight management.**	15%
Neurology	• Evaluates for **neurological involvement**: radiculopathy, nerve compression, cauda equina syndrome. • Performs detailed neurological exam and advises on neuroimaging if needed. • Manages neuropathic pain and coordinates with rehabilitation services.	15%

Integrated Family Medicine Teaching Plan List of SGDs /LGIS

Topics	Learning Objectives	Learning Domains	Teaching Strategy	Assessment Tools
• Diabetes	• Define **Diabetes Mellitus** and classify its types. • Describe the **epidemiology** and public health importance of diabetes. • Explain the **pathophysiology** of Type 1 and Type 2 diabetes. • Identify **clinical features** and diagnostic criteria (fasting glucose, HbA1c, OGTT). • Discuss **acute complications** (DKA, HHS) and **chronic complications** (neuropathy, nephropathy, retinopathy, cardiovascular disease). • Outline **management principles**: lifestyle modification, pharmacological therapy, insulin use, and monitoring. • Understand the role of **screening and prevention** in community health.	• C1 C2 C3	• LGIS	**SAQ MCQ OSCE**
• Stroke/TIA	• Define **TIA** and **Stroke**, and differentiate them (temporary vs permanent neurological deficit). • Describe the **epidemiology and risk factors** (HTN, diabetes, smoking, dyslipidaemia, atrial fibrillation). • Explain the **pathophysiology** of ischemic and haemorrhagic stroke. • Identify **clinical features**: focal neurological deficits, duration and recovery. • Outline **diagnostic criteria** and investigations: CT/MRI brain, carotid Doppler, ECG, labs. • Discuss **management principles**: acute care (stroke unit, thrombolysis, supportive care), secondary prevention (antiplatelet, anticoagulation, statins, lifestyle modification). • Understand **complications**: disability, recurrent stroke, vascular dementia	• C1 C2 C3	• LGIS	**SAQ MCQ OSCE**
• Hypertension	• Define hypertension and classify it according to international guidelines. • Describe the **epidemiology** and public health importance of hypertension. • Explain the **pathophysiology** and risk factors (genetic, lifestyle, environmental). • Identify **clinical features** and complications (cardiac, renal, neurological and	• C1 C2 C3	• LGIS	**SAQ MCQ OSCE**

	vascular). • Outline the **diagnostic criteria** and methods of BP measurement. • Discuss the **management principles**: lifestyle modification, pharmacological therapy, and follow-up. • Understand the role of **screening and prevention** in community health.			
• Aches/ Pains /Fever	• Define and classify **pain** (acute vs chronic, nociceptive vs neuropathic). • Understand the **pathophysiology of fever** and its role as a protective response. • Identify **common causes** of aches, pain, and fever (infectious, inflammatory, musculoskeletal and systemic). • Recognize **red flag symptoms** (persistent high fever, neurological deficits, and severe localized pain). • Outline the **diagnostic approach**: history, examination, basic labs (CBC, ESR/CRP, and cultures), imaging when indicated. • Discuss **management principles**: symptomatic relief, treating underlying cause, rational use of antipyretics and analgesics	• C1 C2 C3	• LGIS	**SAQ MCQ OSCE**
• Common Respiratory problems	• Define and classify the common respiratory problems like Asthma, COPD, and Tuberculosis. • Describe the **epidemiology and public health importance**. • Explain the **pathophysiology and risk factors**. • Identify **clinical features** and diagnostic criteria. • Outline **investigations** and their interpretation. • Discuss **management principles**: lifestyle modification, pharmacological therapy, and follow-up. • Understand the role of **prevention and screening** in community health. • Study common causes of dyspnoea, cough, chest pain, wheeze, and haemoptysis • Basic pathophysiology of common respiratory disease • Causative organisms, modes of transmission, and risk factors for major infectious diseases.	• C1 C2 C3	• LGIS	**SAQ MCQ OSCE**

• Thyroid Disorders	• Define and classify thyroid disorders: • Hypothyroidism, Hyperthyroidism, Goiter, Thyroiditis, Thyroid nodules, Thyroid cancer. • Describe the epidemiology and risk factors (iodine deficiency, autoimmune disease, radiation exposure). • Explain the pathophysiology of thyroid hormone synthesis, regulation, and dysfunction. • Identify clinical features of hypo- and hyperthyroidism (systemic manifestations). • Outline diagnostic approach: thyroid function tests (TSH, T3, T4), imaging (ultrasound, scintigraphy), fine-needle aspiration. • Discuss management principles: medical therapy (antithyroid drugs, thyroxine replacement), surgical options, radioactive iodine, and long-term follow-up.	• C1 C2 C3	• LGIS	**SAQ MCQ OSCE**

Theme -Based LMS Assessment Document
4th Year MBBS 2026

Introduction:

A Learning Management System (LMS) is a software application or platform used to deliver, manage, and track educational content and training programs. It helps organizations, institutions, or businesses deliver learning experiences to learners in an organized, scalable, and accessible way.

1. **Course Creation & Management:**
- Allows instructors or administrators to create and organize courses, modules, lessons, and assessments.
- Supports multimedia content such as videos, quizzes, PDFs, and presentations.

2. **User Management:**
- Facilitates the creation of user profiles for learners, instructors, and administrators.
- Allows tracking of individual progress, achievements, and performance.

3. **Assessment & Testing:**
- Includes features for creating and administering quizzes, assignments, and exams.
- Provides automated grading and feedback to learners.

4. **Reporting & Analytics:**
- Tracks learner performance, course completion rates, and engagement levels.
- Provides insights to instructors and administrators for informed decision-making.

5. **Communication Tools:**
- Integrates discussion boards, chat features, and email to facilitate communication between learners and instructors.
- Supports notifications and announcements.

6. **Scalability & Flexibility:**
- Can accommodate a growing number of learners or users.
- Supports a variety of learning styles, including synchronous (live) and asynchronous (self-paced) learning.

7. **Mobile Access:**
- Many LMS platforms are mobile-friendly or offer mobile apps to support learning on the go.

Implementation of LMS:

To ensure the effective implementation of the Learning Management System (LMS), the following steps will be undertaken:

1. **Infrastructure Setup:**
The LMS will be hosted on a well-equipped platform capable of handling multiple users simultaneously, ensuring reliability and performance during peak usage times.

2. **IT Department Support:**
A dedicated IT department will be responsible for managing the system, providing technical support, and ensuring smooth operation.

3. **User Credentials:**
Unique IDs and passwords will be issued to each student by the IT department, granting secure access to the LMS. Students will be guided on how to use the platform effectively.

4. **Exam Scheduling:**
Dates and times for exams will be pre-set within the LMS, allowing students to prepare accordingly. The scheduling system will ensure timely availability of test materials and instructions.

5. **Automated Notifications:**
Automated messages will be sent to students to inform them of upcoming exams, deadlines, or important updates. These notifications will ensure students remain informed and prepared.

6. **Test Notices:**
Detailed test notices, including exam guidelines, formats, and schedules, will be shared with students through the LMS to ensure clarity and readiness.
This structured implementation plan will enable the LMS to function effectively, fostering a productive and organized learning environment for both students and faculty.

LEARNING MANAGEMENT SYSTEM RMU

- A campus management system is being utilized as a learning resource.
- Faculty members from all disciplines, both basic and clinical, have been actively involved and trained in using these systems to deliver lectures effectively.
- The faculty is responsible for uploading lectures, assignments, and weekly assessments.
- Each student has been provided with a unique login to access the lectures and resources on the LMS.

- Attendance for each academic activity—lectures, interactive sessions, quizzes, and assignments—is recorded separately.
- Faculty members are required to mark attendance immediately after each lecture

Objectives of a Learning Management System (LMS) for Undergraduate Medical Students

The primary objective of a Learning Management System (LMS) for undergraduate medical students is to enhance the quality of medical education by providing a comprehensive, interactive, and accessible digital platform that facilitates:

- **Efficient Delivery of Educational Content:**

To enable faculty to upload and organize lectures, assignments, assessments, and other learning resources systematically.

- **Student-Cantered Learning:**

To promote self-paced, flexible learning by granting students 24/7 access to educational materials tailored to their curriculum.

- **Interactive and Engaging Learning:**

To foster active engagement through features like discussion forums, quizzes, and virtual interactive sessions.

- **Streamlined Academic Monitoring:**

To track student attendance, performance, and progress through automated attendance marking, assessments, and progress dashboards.

- **Standardization and Quality Assurance:**

To ensure uniformity in educational delivery across various disciplines and compliance with institutional and accreditation standards.

- **Feedback and Continuous Improvement:**

To integrate feedback mechanisms that involve students, faculty, and other stakeholders, driving continuous quality improvement.

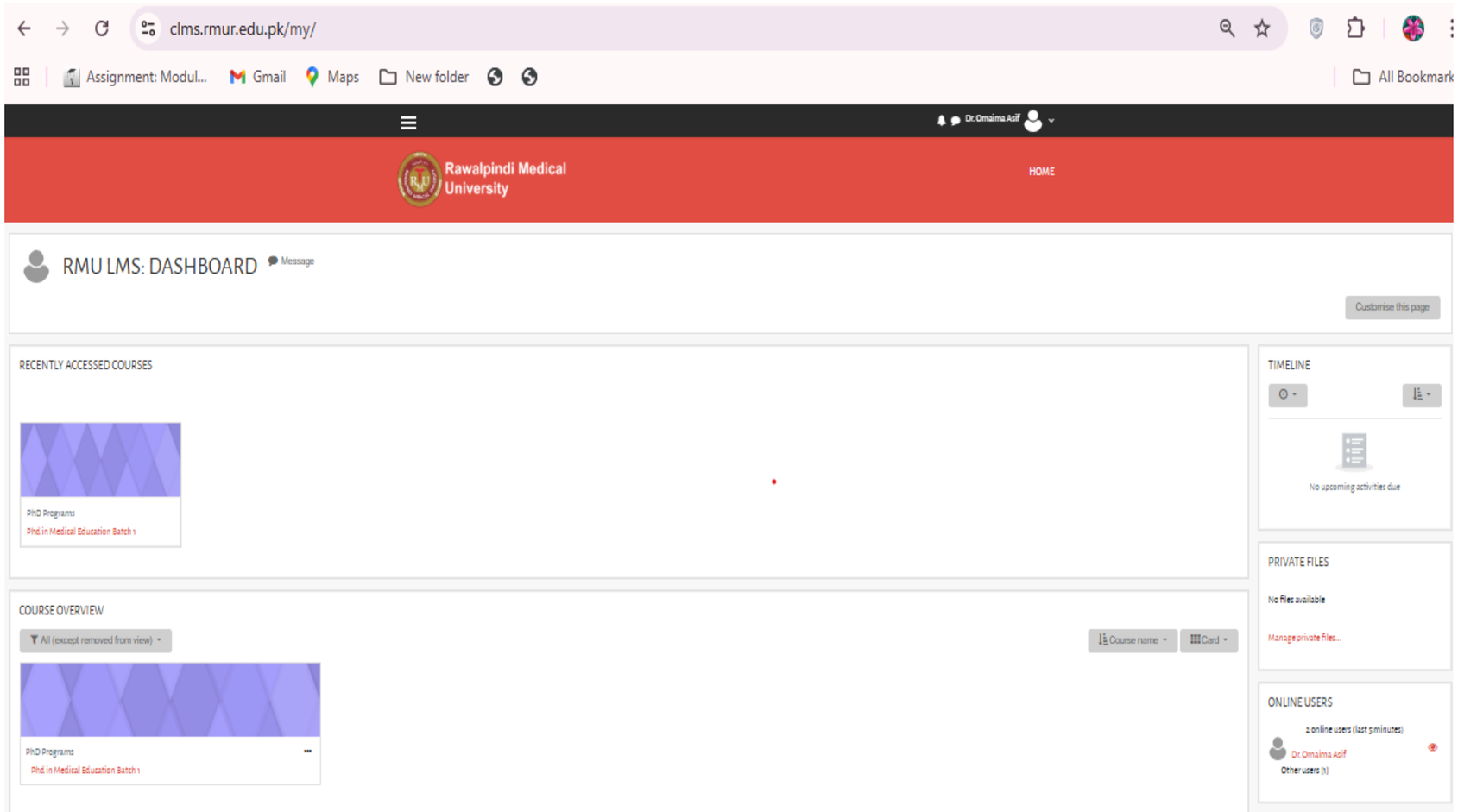
- **Integration of Technology in Medical Education:**

To familiarize students with digital tools and resources essential for modern medical practice and research.

By achieving these objectives, the LMS supports the holistic development of medical students, ensuring they are well-prepared for clinical practice and lifelong learning.

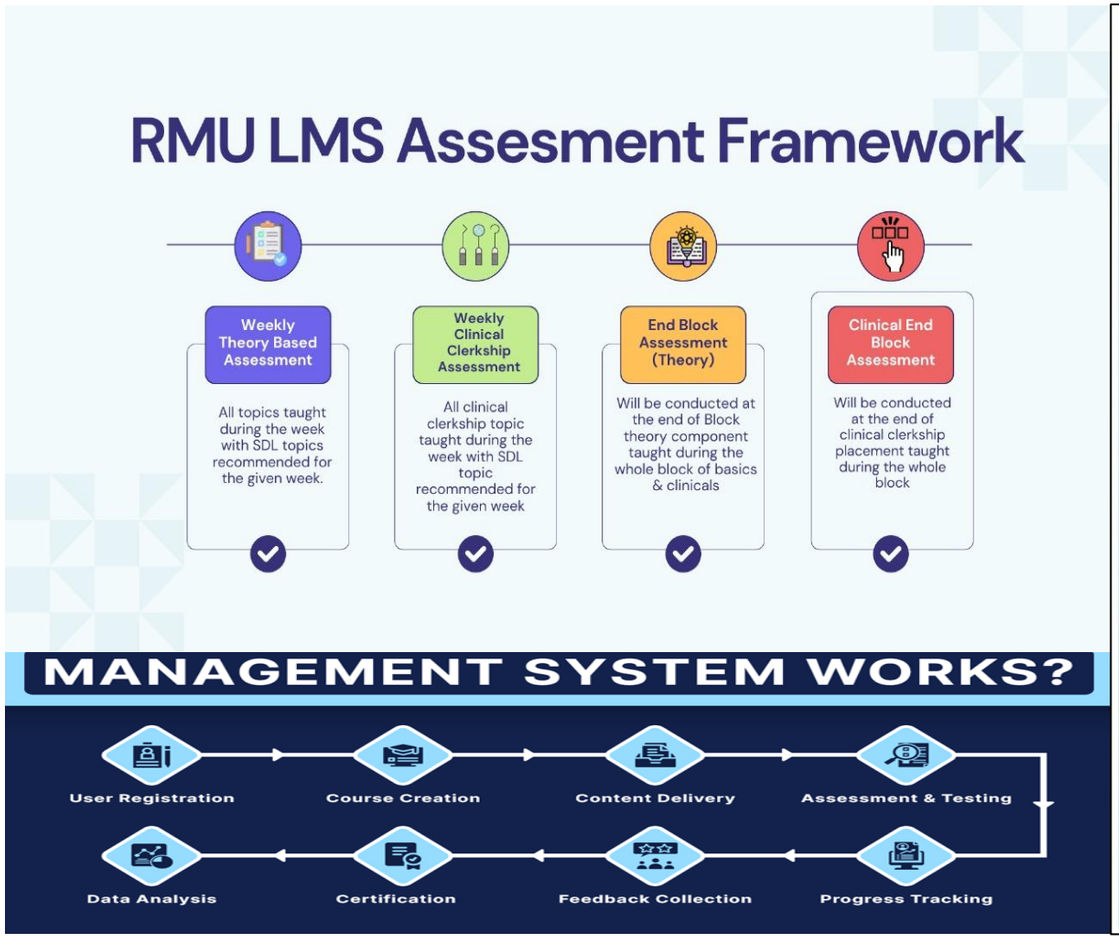
RMU LMS Website

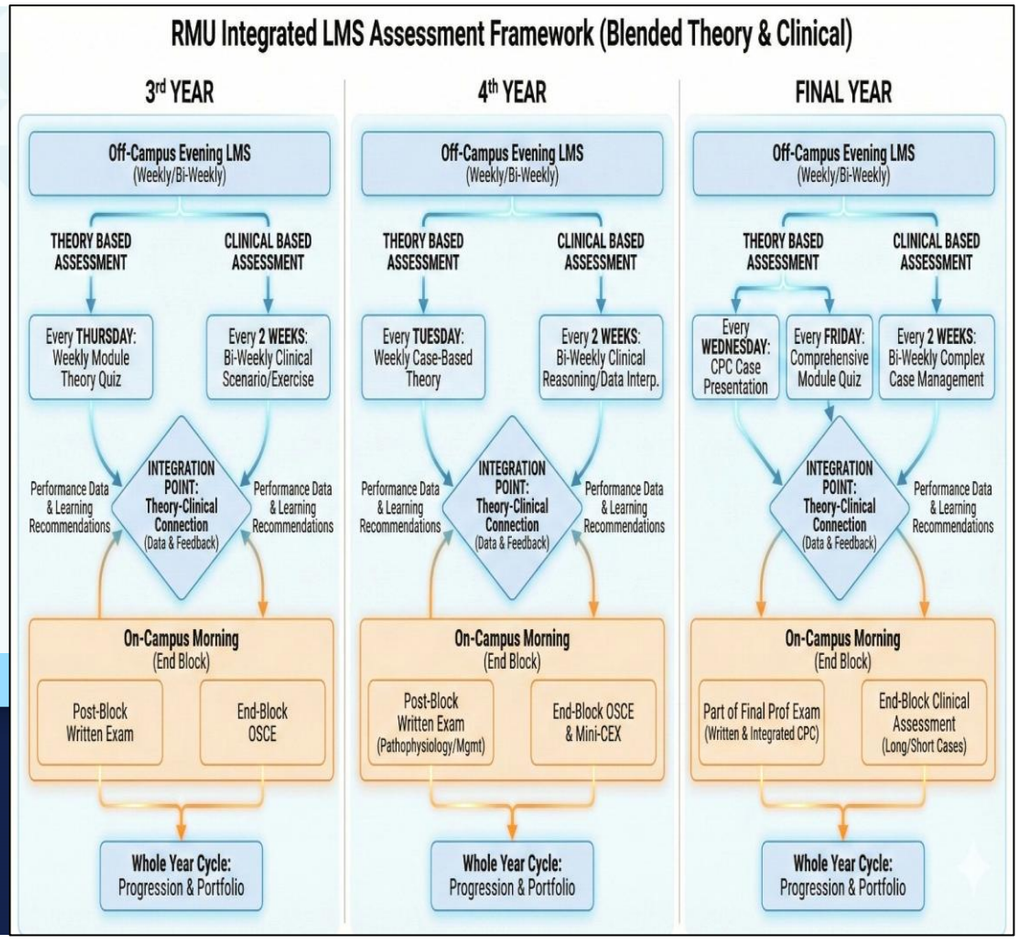
Weblink: https://clms.rmur.edu.pk/



Framework for LMS Assessment for Undergraduate Medical Students

An effective Learning Management System (LMS) assessment framework for undergraduate medical students should be structured to evaluate knowledge, skills, and attitudes systematically. It should also align with educational objectives, regulatory standards, and the specific needs of medical education. Below is a comprehensive framework:





1. Goals and Objectives of Assessment

- **Knowledge:** Evaluate understanding of basic and clinical sciences.
- **Skills:** Assess critical thinking, clinical reasoning, and procedural skills.
- **Attitudes:** Foster professionalism, ethical decision-making, and communication skills.
- **Feedback:** Provide timely, constructive feedback to support learning and growth.

2. Components of LMS-Based Assessment

a. Formative Assessments

- **Purpose:** Monitor ongoing learning and identify areas needing improvement. It includes
  - Online quizzes (MCQs, EMQs)
  - Short assignments or reflections
  - Case-based discussions
  - Interactive polls during live sessions
- **Schedule :** Weekly or module-specific

b. Practical/Skill-Based Assessments

- **Purpose:** Assess clinical skills, diagnostic reasoning, and procedural competence. Practical/skill based assessments can be taught through
  - Virtual simulations (e.g., diagnostic procedures, patient management)
  - Video submissions demonstrating skills (e.g., history-taking, physical examination)
  - Peer assessment of clinical skills via uploaded videos

c. Attendance and Participation.

Its purpose is to encourage consistent engagement in academic activities. Student's attendance is actively monitored through LMS via

- Attendance tracking for lectures, discussions, and interactive sessions.
- Participation metrics (e.g., activity in discussion forums, live Q&A sessions).

d. Feedback Mechanisms: Its purpose is to enhance learning and improve course delivery. Feedback monitoring can be done by following mechanisms:

- Embedded feedback forms after each session or activity.

- Peer and faculty reviews of assignments and projects.
- Self-assessment tools for reflection on progress.

3. Assessment Tools and Formats

- **MCQs/EMQs:** Test foundational knowledge and application.
- **OSCE Simulations:** Evaluate clinical reasoning and procedural skills.
- **Interactive Tools:** Use polls, chat, and breakout rooms for real-time engagement.
- **Assignments:** Assess understanding through essays, case reports, or reflections.
- **Group Projects:** Foster teamwork and problem-solving skills.

4. Implementation Strategies

- **Faculty Training:** Equip faculty with skills to design and deliver online assessments.
- **Student Orientation:** Familiarize students with LMS tools and expectations.
- **Tech Infrastructure:** Ensure robust LMS functionality and technical support.
- **Accessibility:** Provide accommodations for students with disabilities or limited resources

5. Quality Assurance and Continuous Improvement

- **Evaluation Proforma:** Gather periodic feedback from students and faculty.
- **Data Analytics:** Use LMS analytics to track student performance and participation.
- **Audit Mechanisms:** Regularly review and update the assessment framework.
- **Stakeholder Input:** Incorporate suggestions from students, faculty, and external reviewers.

6. Compliance with Regulatory Standards

Launching of LMS in RMU is in alignment with regulatory bodies . Digital learning at RMU aims at

- Alignment assessments with accreditation and medical council guidelines (e.g., HEC, WFME).
- Ensure assessments address core competencies, including knowledge, skills, and professionalism.

This LMS assessment framework integrates diverse evaluation methods to ensure holistic learning and competency development in undergraduate medical students. It fosters an interactive, adaptive, and equitable learning environment, preparing students for the demands of modern medical practice.

Importance of LMS

A Central Pillar of Continuous Internal Assessment (CIA)

In today's rapidly evolving educational landscape, digital learning isn't just an add-on it's the new backbone of academic progress. Our Learning Management System (LMS) stands at the heart of this transformation, bringing structure, consistency, and accessibility to the way students learn and the way faculty deliver content.

By integrating LMS into the Continuous Internal Assessment (CIA) framework, our institution takes a major step forward in aligning with global best practices. LMS-based assessments now officially hold **10% weightage** in the overall evaluation, making regular participation not just beneficial but essential for every student.

Why LMS Matters

1. Streamlined Access to Learning

The LMS gives students a single, organized digital space where lectures, notes, assignments, quizzes, and announcements are available anytime, anywhere. No missed updates, no lost hand-outs everything stays just a click away.

2. Consistent, Transparent Assessment

With weekly formative and summative assessments conducted through LMS, students get a clear picture of their academic standing. The system ensures fairness, automated scoring where appropriate, and immediate feedback so learners can identify strengths and areas needing improvement.

3. Builds Stronger Learning Habits

Regular LMS assessments encourage students to stay engaged throughout the semester instead of relying on last-minute preparation. This continuous learning approach improves retention, confidence, and performance in final exams.

4. Enhances Interaction and Engagement

Through discussion forums, digital assignments, and interactive features, the LMS promotes active learning. Students participate more, collaborate more, and take greater responsibility for their progress.

5. Professional Readiness

Modern healthcare requires tech-savvy professionals who can adapt to digital tools. Using LMS throughout their training prepares students for the technologically advanced clinical and administrative environments they will soon enter.

LMS as Part of CIA: What It Means for Students

- With LMS contributing **10% to the CIA**, students are encouraged to take weekly assessments seriously. Consistent participation directly boosts overall grades while also strengthening core concepts. This system rewards discipline, regular study habits, and active involvement qualities that are essential in medical education.
- A Collective Step towards better learning
- The adoption of LMS-based CIA reflects our institution's commitment to innovation and excellence. We're not just keeping up with global standards; we're moving ahead of the curve by ensuring that every student gets a modern, interactive, and meaningful learning experience.

Curriculum of Family Medicine Block

WEEK	TOPICS OF LGIS & SGD	TOPICS OF SDL & LEARNING OBJECTIVES	LEARNING RESOURCES	MODE OF ASSESSMENT
➢ **Week 1** 1. Patient presenting Headache and Dizziness 2. Patient presenting with Excessive thirst and frequent urination along with fatigue 3. Patient presenting with weight gain, SOB and unhealthy lifestyle 4. Patient presenting with weakness of Right arm and slurred speech	**1. Hypertension** **2. Diabetes Miletus** **3. Metabolic Syndrome** **4. Stroke/TIA**	**By the end of this theme, students should be able to:** **Hypertension** 1. Pathophysiology of essential vs. secondary hypertension 2. Lifestyle modification strategies in hypertension management 3. Role of salt intake and diet in blood pressure control 4. Screening and risk stratification in primary care 5. Complications of uncontrolled hypertension (stroke, CKD, heart failure) **Diabetes Mellitus** 1. Pathophysiology of Type 2 Diabetes Mellitus 2. Diagnostic criteria and screening guidelines in Family Medicine 3. Lifestyle interventions: diet, exercise, weight management 4. Monitoring and complications (microvascular and macrovascular) 5. Patient education and adherence strategies in chronic care **Cerebrovascular Accident (CVA)** 1. Risk factors and prevention of stroke in primary care 2. Clinical presentation and red flags of acute stroke 3. Role of Family Medicine in early recognition and referral 4. Secondary prevention: BP control, diabetes management, smoking cessation 5. Rehabilitation and community reintegration after stroke **Metabolic Syndrome** 1. Definition and diagnostic criteria (waist circumference, BP, glucose, lipids) 2. Pathophysiology and link to insulin resistance 3. Lifestyle modification and preventive strategies in Family Medicine 4. Cardiovascular risk assessment in metabolic syndrome	➢ **Davidsons Principles of Medicine , 24th Edition** ➢ **Nice Guidelines** ➢ **YouTube Videos** **https://www.youtube.com/watch?v=Qm5kB5X70oA** **https://www.youtube.com/watch?v=-B-RVybvffU** **https://www.youtube.com/watch?v=fR3NxCR9z2U** **https://www.youtube.com/watch?v=2IgFri0B85Q**	**LMS Based MCQs**

		5. Patient counselling and multidisciplinary management		
➢ **Week 2** 1. Chronic smoker presenting with cough with sputum, SOB 2. Patient presenting Fever, Malaise and loss of Appetite **3.** Patient presenting with hoarseness of voice, weight issues and sleep disturbance.	**1. Approach to Common Respiratory Problem** **2. Infectious Disease** **3. Thyroid Disorder**	**Approach to Common Respiratory Problems** 1. To understand the common respiratory symptoms such as cough, dyspnea, and wheezing. 2. To learn the basic clinical assessment and examination of patients with respiratory complaints. 3. To identify common respiratory diseases managed in family medicine like asthma, bronchitis, and pneumonia. **Infectious Diseases** 1. To understand the causes and transmission of common infectious diseases. 2. To learn the role of early diagnosis and basic management in primary care. 3. To understand preventive measures such as vaccination, hygiene, and patient education. **Thyroid Disorders** 1. To understand the basic function of the thyroid gland and common thyroid disorders. 2. To recognize the symptoms of hypothyroidism and hyperthyroidism in patients. 3. To learn the role of family physicians in early detection, investigation, and referral of thyroid disorders.	➢ **Davidsons Principles of Medicine , 24th Edition** ➢ **Nice Guidelines** ➢ **YouTube Videos** **https://www.classcentral.com/course/youtube-the-thyroid-gland-and-the-thyroid-hormone-t3-t4-229323?utm_source=chatgpt.com** **https://www.classcentral.com/course/youtube-diagnosis-of-hypothyroidism-subclinical-hypothyroidism-euthyroid-sick-syndrome-investigation-usmle-343831** **https://www.osmosis.org/video/Tuberculosis%3A_Pathology_review?utm_source=chatgpt.com** **https://aclscertification.org/pathophysiology-of-copd-video/** **https://www.osmosis.org/learn/es/Dengue_virus?utm_source=chatgpt.com** **https://www.osmosis.org/video/Viral_hepatitis:_Pathology_review** **https://www.osmosis.org/video/Salmonella_typhi_(typhoid_fever)**	**LMS Based MCQs**

Implementation of LMS

Table of Specification of weekly LMS of 3rd, 4th & Final Year MBBS

Table 1: Frequency of Assessments & Distribution of MCQs in LMS for 4th Year:

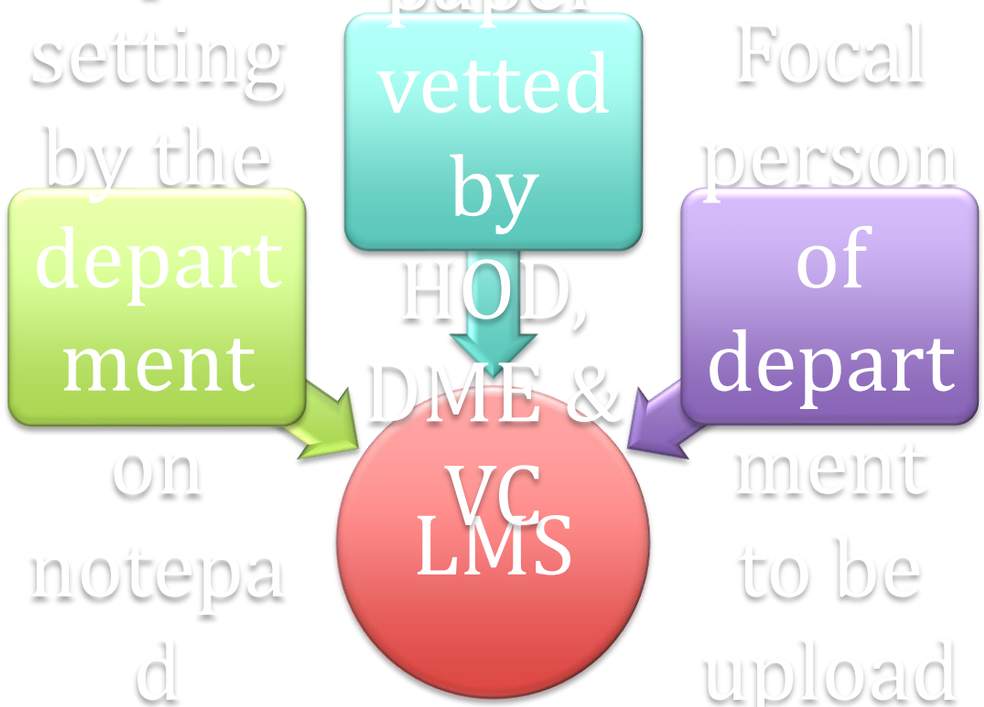
Sr. #.	Nomenclature of Exam			Time	Type of Assessment	No of MCQs
1.	During module (Weekly)	LMS Test	Every Thursday evening	8:00 to 10:00 pm	Summative	100

Table 2: Distribution of Questions According to Level of Cognition:

Level of Cognition	%age Distribution of Questions	Type of Integration
C1(Recall)	20%	Horizontal
C2(Interpretation)	60%	Core Concept & Vertical
C3(Problem Solving)	20%	Vertical(Purely Clinical Concepts)

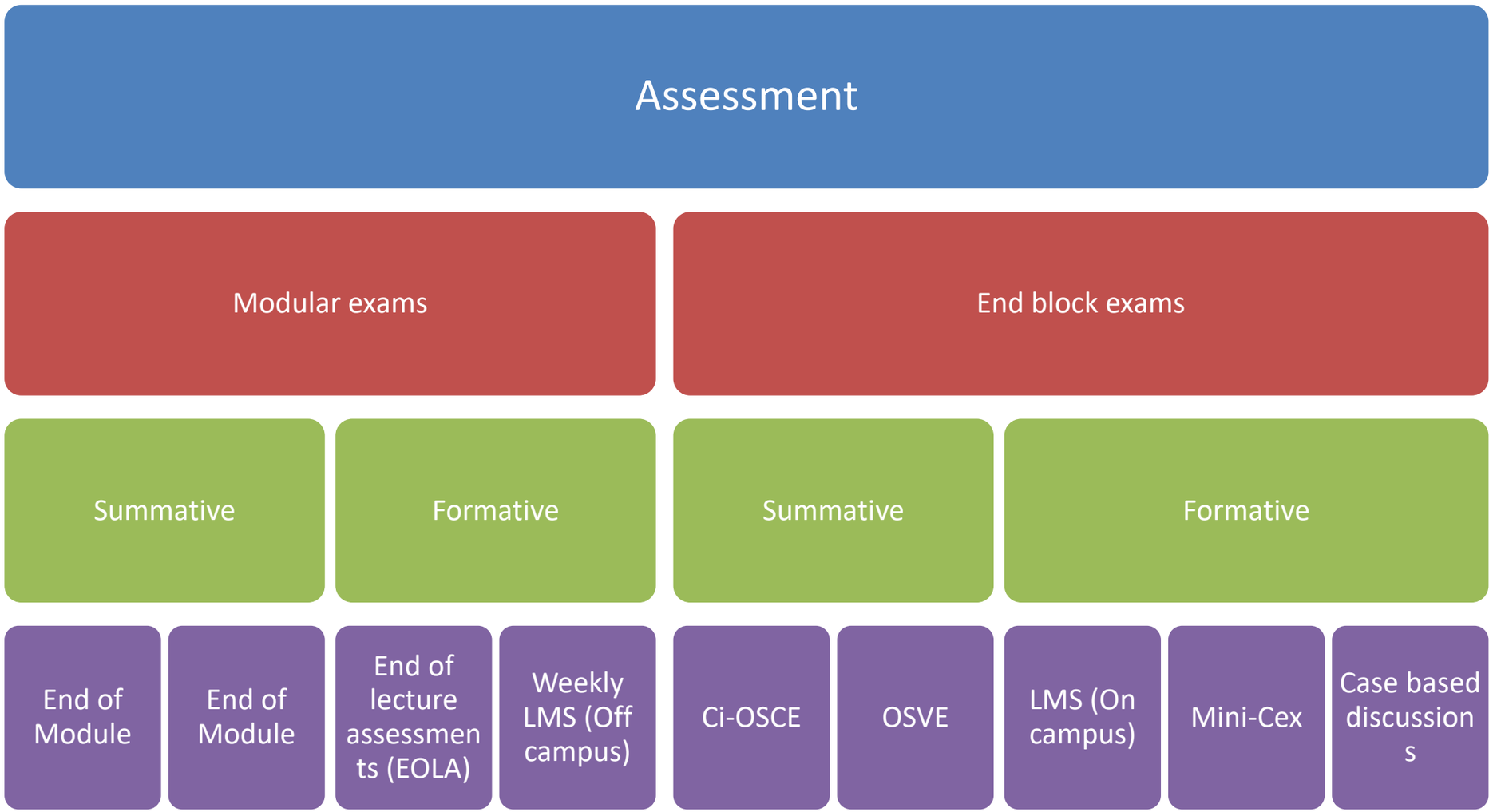
Assessment Papers

Hierarchy of conducting LMS



SECTION- III

Assessment Policy


Assessment
Modular exams
End block exams
Summative
Formative
Summative
Formative
End of Module
End of Module
End of lecture assessments (EOLA)
Weekly LMS (Off campus)
Ci-OSCE
OSVE
LMS (On campus)
Mini-Cex
Case based discussions

Assessment Cycle Summary

Cycle	Duration	Assessment Type	Format	Total Marks
Every 2 Weeks	After each department rotation	End Module Assessment	25 MCQs + 5 OSCE	50 Marks
Every 2 Months	After completion of all 4 rotations in cluster	End Block Assessment	25 MCQs + 5 AV OSPE + 5 OSCE	100 Marks

End Module Assessment (EMA)

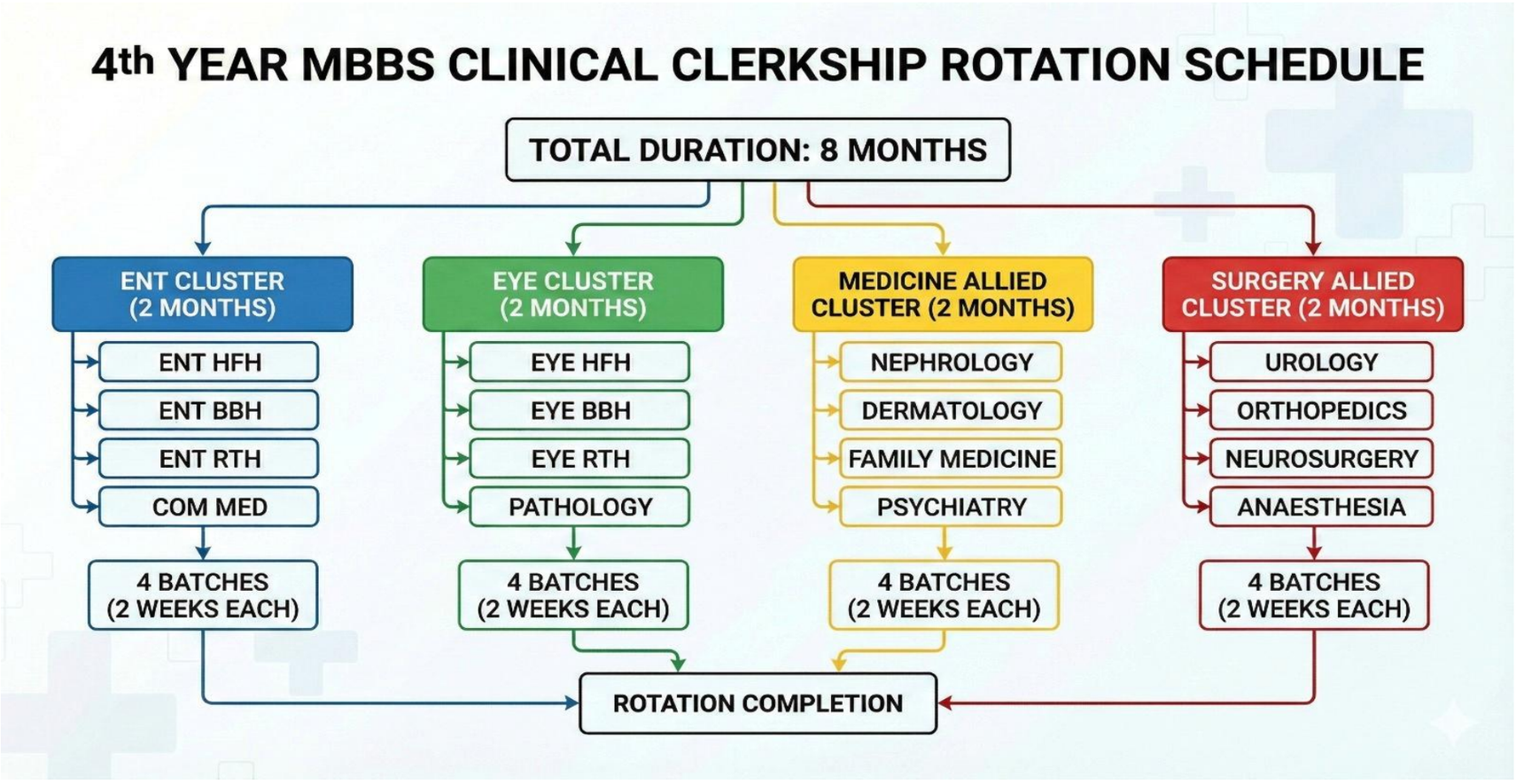
Conducted After Every 2-Week Rotation | Total: 50 Marks

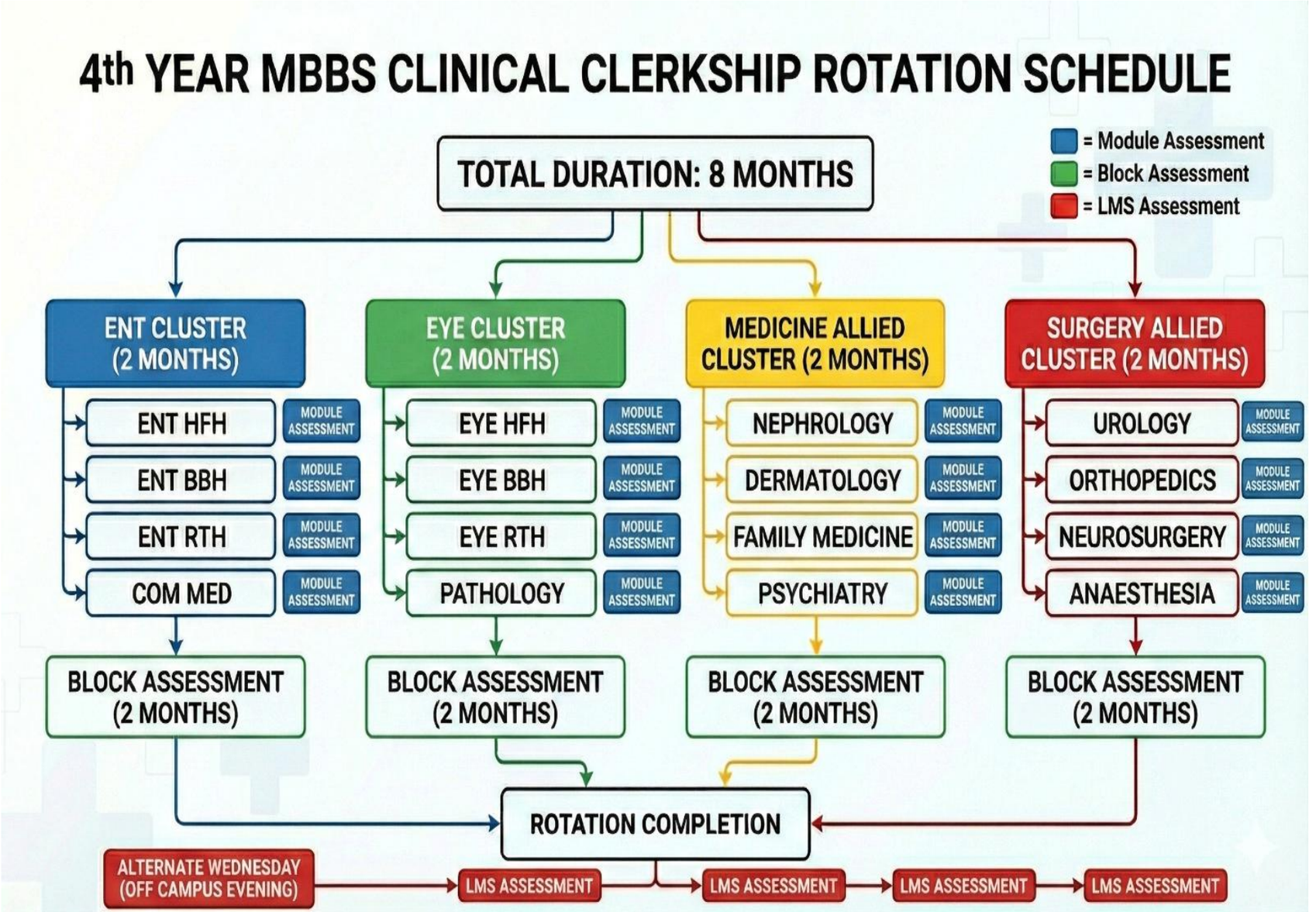
ACGME competencies	Assessment tool
Medical Knowledge	MCQ, SAQ, OSCE, ward test
Patient care	OSCE, Ward test
Practice- based learning	OSCE, ward test
System based practice	OSCE, ward test
Professionalism	OSCE, ward test
Communication skills	OSCE, ward test
Research	Spirally integrated across all 5 years Research projects

Each formative assessment serves as a targeted gauge for students to showcase their evolving competencies, embracing the ACGME's focus on patient care, medical knowledge, practice-based learning, interpersonal and communication skills, professionalism, and systems-based practice. As the modules progress, these assessments provide iterative insights into learners' development across these crucial competencies.

The culmination of each module manifests in a summative assessment, meticulously crafted to evaluate the synthesis and application of knowledge within the context of the ACGME competencies. This comprehensive approach ensures that the evaluation process not only measures academic understanding but also holistically assesses the skills and attributes essential for effective and compassionate medical practice.

In essence, this table of specifications serves as a dynamic framework for instructors, weaving ACGME competencies into the fabric of assessments to cultivate well-rounded, future-ready healthcare professionals. It underscores the commitment to nurturing individuals who excel not only in the theoretical aspects of Urology but also in the broader spectrum of competencies vital for patient-centered care.




4th YEAR MBBS CLINICAL CLERKSHIP ROTATION SCHEDULE
TOTAL DURATION: 8 MONTHS
= Module Assessment
= Block Assessment
= LMS Assessment
ENT CLUSTER (2 MONTHS)
EYE CLUSTER (2 MONTHS)
MEDICINE ALLIED CLUSTER (2 MONTHS)
SURGERY ALLIED CLUSTER (2 MONTHS)
ENT HFH
ENT BBH
ENT RTH
COM MED
EYE HFH
EYE BBH
EYE RTH
PATHOLOGY
NEPHROLOGY
DERMATOLOGY
FAMILY MEDICINE
PSYCHIATRY
UROLOGY
ORTHOPEDICS
NEUROSURGERY
ANAESTHESIA
MODULE ASSESSMENT
BLOCK ASSESSMENT (2 MONTHS)
ROTATION COMPLETION
ALTERNATE WEDNESDAY (OFF CAMPUS EVENING)
LMS ASSESSMENT

1. Programme Overview

The Fourth Year MBBS Clinical Clerkship Programme is structured around a cluster-based rotation framework designed to provide comprehensive, systematic, and equitable clinical exposure across all major medical and surgical specialties. Students are organized into four batches that rotate concurrently across four defined clinical clusters, ensuring that all batches complete exposure to all clusters over the academic year.

Each cluster comprises four affiliated departments or hospital units, with each rotation lasting two (2) weeks. Upon completion of all four rotations within a cluster, a full block of two (2) months is completed. This cycle then repeats, allowing for structured progression through all clusters.

1.1 Programme Structure at a Glance

Parameter	Details
Academic Level	Fourth Year MBBS (Final Clinical Year — Phase I)
Total Clusters	4 Clusters running concurrently
Total Batches	4 Batches rotating simultaneously across clusters
Rotation Duration	2 Weeks per department/module
Block Duration	2 Months per cluster (4 × 2-week rotations)
Departments per Cluster	4 Departments / Venues
End Module Assessment	After every 2-week rotation
End Block Assessment	After every 2-month cluster block
Cycle	Repeating — all batches complete all clusters

2. Clinical Clusters and Batch Allocation

The programme is divided into four (4) clinical clusters. Each cluster is assigned one (1) batch at any given time. All four batches rotate concurrently, one per cluster, and the cycle repeats so that every batch completes every cluster.

#	Cluster Name	Batch	Departments / Venues	Duration
1	**ENT Cluster**	Batch A	ENT-HFH | ENT-BBH | ENT-RTH | Com Med	2 months (4 × 2 wks)
2	**EYE & Pathology Cluster**	Batch B	EYE-HFH | EYE-BBH | EYE-RTH | Pathology	2 months (4 × 2 wks)
3	**Medicine Allied Cluster**	Batch C	Dermatology | Nephrology | Family Medicine | Psychiatry	2 months (4 × 2 wks)
4	**Surgery Allied Cluster**	Batch D	Orthopedics | Anaesthesia | Neurosurgery | Urology	2 months (4 × 2 wks)

Note: Batches A, B, C, and D rotate through all four clusters sequentially. The cluster assigned to each batch changes at the start of every new 2-month block. After four complete cycles, all batches will have completed all four clusters.

3. Cluster 1: ENT Cluster

Batch Assigned: Batch A | Total Duration: 2 Months | Rotations: 4 × 2 Weeks

The ENT Cluster provides students with structured clinical exposure across three major teaching hospitals and the Community Medicine department. The inclusion of Community Medicine within the ENT cluster enables students to contextualise ENT disorders within a public health and primary care framework, addressing preventive, rehabilitative, and community-based aspects of ear, nose, and throat diseases.

3.1 Rotation Schedule — ENT Cluster

Week	Period	Rotation / Department	Hospital / Venue
Wk 1–2	Module 1 (Weeks 1–2)	ENT Department	Holy Family Hospital (HFH)
Wk 3–4	Module 2 (Weeks 3–4)	ENT Department	Benazir Bhutto Hospital (BBH)
Wk 5–6	Module 3 (Weeks 5–6)	ENT Department	Rawalpindi Teaching Hospital (RTH)
Wk 7–8	Module 4 (Weeks 7–8)	Community Medicine	Community Medicine Department / Field Sites

3.2 Clinical Competencies — ENT Cluster

Students rotating through the ENT Cluster are expected to develop competencies in history-taking, clinical examination, and basic procedural skills pertaining to diseases of the ear, nose, throat, head, and neck. The Community Medicine module contextualises these conditions within epidemiological, preventive, and health systems frameworks.

4. Cluster 2: EYE & Pathology Cluster

Batch Assigned: Batch B | Total Duration: 2 Months | Rotations: 4 × 2 Weeks

The EYE and Pathology Cluster provides students with clinical exposure to ophthalmology across three major teaching hospitals, supplemented by a dedicated Pathology rotation. The Pathology module reinforces laboratory-based diagnostic reasoning and integrates histopathological, microbiological, and haematological perspectives that underpin clinical decision-making in ophthalmology and beyond.

4.1 Rotation Schedule — EYE & Pathology Cluster

Week	Period	Rotation / Department	Hospital / Venue
Wk 1–2	Module 1 (Weeks 1–2)	Ophthalmology (EYE) Department	Holy Family Hospital (HFH)
Wk 3–4	Module 2 (Weeks 3–4)	Ophthalmology (EYE) Department	Benazir Bhutto Hospital (BBH)
Wk 5–6	Module 3 (Weeks 5–6)	Ophthalmology (EYE) Department	Rawalpindi Teaching Hospital (RTH)
Wk 7–8	Module 4 (Weeks 7–8)	Pathology Department	Pathology Department / Laboratory

4.2 Clinical Competencies — EYE & Pathology Cluster

Students are expected to master the ophthalmic examination including visual acuity, slit-lamp biomicroscopy, fundoscopy, and tonometry. The Pathology module reinforces competencies in interpretation of histopathology slides, haematological indices, urinalysis, and laboratory quality control principles relevant to clinical practice.

5. Cluster 3: Medicine Allied Cluster

Batch Assigned: Batch C | Total Duration: 2 Months | Rotations: 4 × 2 Weeks

The Medicine Allied Cluster integrates four allied medical specialties that are essential for comprehensive clinical practice: Dermatology, Nephrology, Family Medicine, and Psychiatry. Each sub-batch within Batch C rotates through all four specialties over the 2-month block, developing clinical competencies in both outpatient and inpatient settings across diverse patient populations.

5.1 Rotation Schedule — Medicine Allied Cluster

Week	Period	Rotation / Department	Hospital / Venue
Wk 1–2	Module 1 (Weeks 1–2)	Dermatology & Venereology	Teaching Hospital / Dermatology OPD
Wk 3–4	Module 2 (Weeks 3–4)	Nephrology	Teaching Hospital / Nephrology Unit
Wk 5–6	Module 3 (Weeks 5–6)	Family Medicine	Family Medicine Department / Community Clinic
Wk 7–8	Module 4 (Weeks 7–8)	Psychiatry	Psychiatry Department / Mental Health Unit

5.2 Clinical Competencies — Medicine Allied Cluster

Dermatology: Systematic skin examination, morphological description of lesions, management of common dermatoses, and dermoscopy basics. Nephrology: Fluid and electrolyte management, interpretation of renal function tests, renal replacement therapy principles, and management of glomerular and tubular diseases. Family Medicine: Patient-centred consultation skills, chronic disease management, preventive care, and the family as a unit of care. Psychiatry: Mental state examination (MSE), diagnosis of common psychiatric disorders, biopsychosocial formulation, and safe prescribing of psychotropic agents.

6. Cluster 4: Surgery Allied Cluster

Batch Assigned: Batch D | Total Duration: 2 Months | Rotations: 4 × 2 Weeks

The Surgery Allied Cluster exposes students to four critical surgical subspecialties: Orthopedics, Anaesthesia, Neurosurgery, and Urology. These specialties collectively cover the full perioperative pathway, trauma and musculoskeletal medicine, neurological surgery, and urological disorders. Students participate in ward rounds, operating theatre sessions, outpatient clinics, and emergency assessments under appropriate supervision.

6.1 Rotation Schedule — Surgery Allied Cluster

Week	Period	Rotation / Department	Hospital / Venue
Wk 1–2	Module 1 (Weeks 1–2)	Orthopedics & Trauma Surgery	Teaching Hospital / Ortho Ward & OT
Wk 3–4	Module 2 (Weeks 3–4)	Anaesthesia & Perioperative Medicine	Teaching Hospital / Anaesthesia Department & OT
Wk 5–6	Module 3 (Weeks 5–6)	Neurosurgery	Teaching Hospital / Neurosurgery Unit
Wk 7–8	Module 4 (Weeks 7–8)	Urology	Teaching Hospital / Urology Ward & OT

6.2 Clinical Competencies — Surgery Allied Cluster

Orthopedics: Musculoskeletal examination, fracture management, splinting, and interpretation of orthopaedic imaging. Anaesthesia: Pre-operative assessment, airway management principles, monitoring parameters, and post-operative pain management. Neurosurgery: Neurological examination, Glasgow Coma Scale, management of head injuries and raised intracranial pressure, and interpretation of neuroimaging. Urology: Urological history and examination, catheterisation, urinalysis interpretation, and management of common urological emergencies.

7. Assessment Framework

The assessment system is designed on a two-tier model: End Module Assessments (EMA) following every 2-week rotation, and End Block Assessments (EBA) following every 2-month cluster block. Both tiers are mandatory, formative feedback is provided after each assessment, and results contribute to the overall summative academic record.

7.1 Assessment Cycle Summary

Cycle	Duration	Assessment Type	Format	Total Marks
Every 2 Weeks	After each department rotation	**End Module Assessment**	25 MCQs + 5 OSCE	**50 Marks**
Every 2 Months	After completion of all 4 rotations in cluster	**End Block Assessment**	25 MCQs + 5 AV OSPE + 5 OSCE	**100 Marks**

7.2 End Module Assessment (EMA)

Conducted After Every 2-Week Rotation | Total: 50 Marks

The End Module Assessment is administered at the conclusion of each 2-week departmental rotation. It evaluates the module-specific knowledge, clinical reasoning, and practical skills acquired during that rotation. The EMA comprises two components: a written component using LMS-based Multiple Choice Questions and a clinical skills component via OSCE stations.

Table of Specification (TOS) — End Module Assessment

Assessment Component	Format	No. of Items	Marks per Item / Total
Written Component	LMS MCQs	25	1 mark each / 25 marks
Clinical Skills Component	OSCE Stations	5 Stations	5 marks each / 25 marks
TOTAL		**30 Items**	**50 Marks**

EMA Component	Specifications
LMS MCQs	25 single-best-answer MCQs delivered via the Learning Management System (LMS). Questions are mapped to the module's clinical competencies. Each MCQ carries 1 mark. No negative marking. Time allowed: 30 minutes.
OSCE Stations	5 stations, each carrying 5 marks (Total: 25 marks). Stations are competency-based and may include history-taking, clinical examination, procedural skills, data interpretation, and clinical communication. Duration: 5–7 minutes per station.
Pass Mark	50% overall (25/50 marks) with no individual component failure threshold at module level. However, attendance at both components is mandatory.

7.3 End Block Assessment (EBA)
Conducted After Every 2-Month Block | Total: 100 Marks

The End Block Assessment is a comprehensive summative examination conducted at the end of each 2-month cluster block. It integrates knowledge, diagnostic reasoning, and clinical skills across all four departments within the cluster. The EBA is a high-stakes assessment and carries greater weighting in the academic record. It comprises three components: LMS MCQs, Audio-Visual OSPE (AV OSPE), and OSCE stations.

Table of Specification (TOS) — End Block Assessment

Assessment Component	Format	No. of Items	Marks per Item / Total
Written Component	LMS MCQs	25	1 mark each / 25 marks
Practical / Lab Component	AV OSPE Stations	5 Stations	5 marks each / 25 marks
Clinical Skills Component	OSCE Stations	5 Stations	10 marks each / 50 marks
TOTAL		**35 Items**	**100 Marks**

EBA Component	Specifications
LMS MCQs	25 single-best-answer MCQs covering all four departments of the cluster block. Delivered via the Learning Management System. Each MCQ carries 1 mark. No negative marking. Time allowed: 30 minutes.
AV OSPE Stations	5 Audio-Visual OSPE stations, each carrying 5 marks (Total: 25 marks). Each station presents a clinical scenario using audio, video, imaging, or laboratory material. Students respond to structured written questions. Duration: 5 minutes per station. Skills tested include radiograph/ECG/lab report interpretation, image-based diagnosis, procedural videos, and audio-clinical vignettes.

OSCE Stations	5 OSCE stations, each carrying 10 marks (Total: 50 marks). High-fidelity stations assessing complex clinical competencies including integrated history and examination, clinical decision-making, procedural skills, counselling, and interprofessional communication. Duration: 8–10 minutes per station. Standardised patients, mannequins, and task trainers may be used.
Pass Mark	50% overall (50/100 marks). Failure in any individual component (MCQ, AV OSPE, or OSCE) below 40% requires remediation for that component.

Date Sheet:

For LMS Assessment (Every Alternate Wednesday)

S.No	Date	Day	Assessment Type
1	18-03-2026	Wednesday	LMS Module Assessment
2	08-04-2026	Wednesday	LMS Module Assessment
3	22-04-2026	Wednesday	LMS Module Assessment
4	06-05-2026	Wednesday	LMS Module Assessment
5	20-05-2026	Wednesday	LMS Module Assessment
6	03-06-2026	Wednesday	LMS Module Assessment
7	17-06-2026	Wednesday	LMS Module Assessment

For Clinical Module Assessment: (End of Module Alternate Thursday)

S.No	Date	Day	Assessment Type
1	19-03-2026	Thursday	Clinical End Module Assessment
2	09-04-2026	Thursday	Clinical End Module Assessment
3	23-04-2026	Thursday	Clinical End Module Assessment
4	07-05-2026	Thursday	Clinical End Module Assessment
5	21-05-2026	Thursday	Clinical End Module Assessment
6	04-06-2026	Thursday	Clinical End Module Assessment
7	18-06-2026	Thursday	Clinical End Module Assessment

8. Master Rotation Plan — Repeating Cycle

The following master plan illustrates the repeating cycle of batch-cluster assignments. Each cycle is 2 months in duration, and after four complete cycles, every batch will have completed all four clusters. The cycle then recommences as required.

Block / Cycle	Batch A	Batch B	Batch C	Batch D
Block 1 (Months 1–2)	ENT Cluster	EYE & Path Cluster	Medicine Allied	Surgery Allied
Block 2 (Months 3–4)	EYE & Path Cluster	Medicine Allied	Surgery Allied	ENT Cluster

Block 3 (Months 5–6)	Medicine Allied	Surgery Allied	ENT Cluster	EYE & Path Cluster
Block 4 (Months 7–8)	Surgery Allied	ENT Cluster	EYE & Path Cluster	Medicine Allied

After Block 4, the cycle repeats from Block 1 with the same rotation sequence. This ensures equitable exposure and workload distribution across all batches and departments throughout the academic year.

9. Integrated Assessment Schedule Within Each Block

The following timeline shows how module and block assessments are sequenced within a single 2-month cluster block. This pattern is identical for all four clusters.

Week	Activity	Department	Assessment	Marks
1–2	Module 1 Rotation	Dept. 1 of Cluster	—	—
End Wk 2	**End Module Assessment 1**	**—**	**25 MCQs + 5 OSCE**	**50 marks**
3–4	Module 2 Rotation	Dept. 2 of Cluster	—	—
End Wk 4	**End Module Assessment 2**	**—**	**25 MCQs + 5 OSCE**	**50 marks**
5–6	Module 3 Rotation	Dept. 3 of Cluster	—	—
End	**End**	**—**	**25 MCQs**	**50**

Wk 6	**Module Assessment 3**		**+ 5 OSCE**	**marks**
7–8	Module 4 Rotation	Dept. 4 of Cluster	—	—
End Wk 8	**End Module Assessment 4**	**—**	**25 MCQs + 5 OSCE**	**50 marks**
End Block	**End Block Assessment**	**All 4 Depts.**	**25 MCQ + 5 AV OSPE + 5 OSCE**	**100 marks**

10. Administrative Provisions and Policies

10.1 Attendance Requirements

A minimum attendance of 80% is mandatory in each 2-week rotation. Students failing to meet the attendance threshold will be ineligible to sit the End Module Assessment for that rotation..

10.2 Logbook and Portfolio Requirements

Students are required to maintain a clinical logbook documenting all clinical encounters, procedural competencies attempted or completed, and reflective entries for each rotation. Logbooks must be endorsed by the supervising faculty member at the end of each module. Portfolio submissions, including at minimum two structured reflective entries per cluster block, are required prior to the End Block Assessment.

10.5 Interprofessional Education

Students are encouraged to participate in interprofessional education (IPE) activities during their rotations wherever opportunities arise, including multidisciplinary team meetings, ward rounds, case conferences, and joint clinics. Participation in at least one documented IPE activity per cluster block is expected and should be recorded in the clinical portfolio.

13. Document Approval

This document constitutes the official framework for the Fourth Year MBBS Clinical Clerkship Programme. It has been reviewed by the relevant academic and administrative authorities and is effective from the date of approval.

Programme Director	Dean, Faculty of Medicine	Head, Medical Education
_____	_____	_____
Signature & Date	Signature & Date	Signature & Date

SECTION - IV

Learning Resources

Subject	Resources
Family Medicine	• Davidsons Principles of Medicine , 24th Edition • Oxford Book of Family Medicine (4th Edition) • NICE Guidelines