Rawalpindi Medical University
MBBS
Fourth Year integrated Modular Curriculum
Surgery &Allied
2025

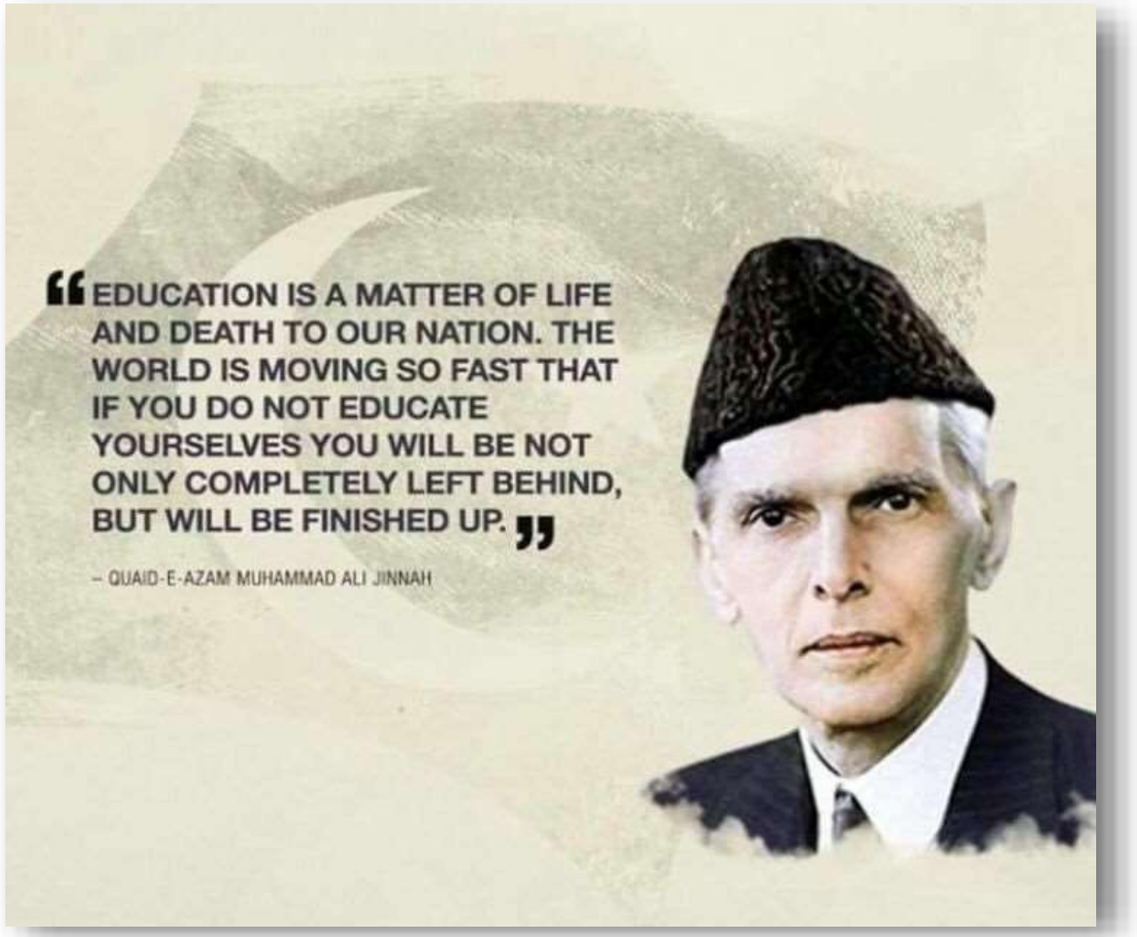
MBBS

Modular Integrated Curriculum
2025

MBBS FOURTH YEAR

Surgery &Allied
(Orthopaedic Surgery)

Quote by Quaid-e-Azam Muhammad Ali Jinnah



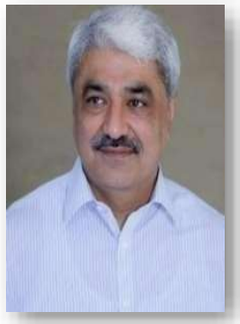
Sardar Saleem Haider Khan

Governor Punjab

It is with great pleasure that I extend my congratulations to Rawalpindi Medical University on the introduction of its Integrated Curriculum. This progressive step reflects the university's commitment to shaping the future of medical education inPakistan, ensuring that our future healthcare professionals are equipped with the skills and knowledge needed to meet the evolving demands of healthcare, both locally and globally.

The integrated curriculum represents a significant shift in how medical education is delivered, focusing on the interconnection between various disciplines and emphasizing patient-centered care. By blending theoretical knowledge with practical application from the early stages of their education, students are better prepared to understand the complexities of human health and the diverse challenges they will face in their medical careers. This holistic approach is critical in nurturing well-rounded professionals who are not only adept clinicians but also compassionate caregivers.

Rawalpindi Medical University has always been at the forefront of medical education, and this curriculum reflects its visionary leadership in preparing graduates who are ready to confront the future of healthcare with confidence and competence. I am confident that this initiative will greatly contribute to the advancement of healthcare in Punjab and beyond, ensuring that our doctors are not only skilled but also compassionate and ethical leaders in their field.



Mr. Khawaja Salman Rafique

Minister, Specialized Healthcare & Medical Education Department

The Rawalpindi Medial University, Rawalpindi has consistently evolved and adapted to support its learners, uphold academic standards, and maintain its status as a globally recognized institution.

The launch of the 'Modular Curriculum 2024 marks a significant step forward in advancing public health and addressing future healthcare needs. By embracing this curriculum, students and professionals alike will gain the tools to turn knowledge into practical expertise, positioning themselves as leaders in research, public service, sustainable healthcare, and accessible medical care.

A curriculum's success hinges on the dedication of those who implement it. The true impact of this program will be realized through the joint efforts of educators and learners. I am confident that this integrated educational framework will equip our future doctors to confront global health challenges, including emerging disease trends, healthcare equity, and solutions for underserved communities.

Prof. Dr. Muhammad Umar.
Vice Chancellor RMU

Prof Jahangir Sarwar Khan
Principal RMC

There is no subject which will require more careful consideration in the settlement of the educational details of the University of which RMU is to be the center than that of the choice and arrangement of the curriculum to be required for the degree in medicine. An exceptional opportunity presents itself, you have, within certain limits, a tabula rasa, and it behooves the authorities of the future university to mark it in the manner best calculated to promote the advance of medical science and the efficiency of medical teaching. If, from an experience acquired as a teacher and examiner in various universities during a period of more than a quarter of a century, I can help in the promotion of these objects, by pointing out virtues which may be emulated here,and failings which may be avoided there. I shall at least feel I have done something to assist in the modelling of what will, we all hope, become one of the great centers of learning of Pakistan. There is no subject which will require more careful consideration in the settlement of the educational details of the University of which RMU is to be the center than that of the choice and arrangement of the curriculum to be required for the degree in medicine. An exceptional opportunity presents itself, you have, within certain limits, a tabula rasa, and it behooves the authorities of the future university to mark it in the manner best calculated to promote the advance of medical science and the efficiency of medical teaching. If, from an experience acquired as a teacher and examiner in various universities during a period of more than a quarter of a century, I can help in the promotion of these objects, by pointing out virtues which may be emulated here,and failings which may be avoided there. I shall at least feel I have done something to assist in the modelling of what will, we all hope, become one of the great centers of learning of Pakistan.

Prof Dr. Ifra Saeed

Professor of Anatomy Director DME

This is a great prospect for RMU and curriculum committee to formulate the modular curriculum of Fourth Year MBBS. It is a task, well meant for its contribution in medical education. Hopefully it will go a long way in training the medical graduates, as per required national and international standards of medical education. The Modular teaching is likely to give a fresh and varied approach to learning process and at the end optimizing maximum learning outcomes. This entails coordination, patience, commitment and diligence from all those who are on board, either the faculty or the students. All this seems to be encouraging, yet limited resources, inadequate manpower, and difficulty in breaking traditional shackles are tangible obstacles.

The preparation and implementation of modular curriculum provides the faculty an opportunity to design and re orientate and re-conceptualize health –illness process. Transforming academic stakeholders' learning perspectives and then to translate it in students' development as an effective force of society, well versed with modern day problems, is an uphill task. This is a humble effort in this regard. Still there is lot to distill, crystallize and narrate. Hopefully from this marathon, the curiosity will emerge like a fresh breeze, from here the character will arise in the horizon, as all this at the end is meant to serve the ailing humanity and to accomplish the dream of a healthy At the end, it will be great injustice not to acknowledge the unwavering and untiring support of Prof Dr Muhammad Umar, Vice Chancellor RMU, who is an ardent supporter and promoter of anything which givesfreshimpetus to medical education and practice. It's all because of his continuous input and persuasion, that the modular curriculum achieved fruition.

Dr. Omaima Asif

Assistant Director DME/ Editor

As we begin this exciting new chapter with the Integrated Modular Curriculum, I want to take a moment to share my enthusiasm for the opportunities it brings to both our students and faculty. This forward-thinking curriculum is crafted to enrich the educational journey while better preparing our future healthcare professionals to tackle the intricacies of patient care.

In today's fast-changing medical environment, it is essential that our educational approach reflects the interconnectedness of healthcare. The Integrated Modular Curriculum dismantles conventional barriers, allowing students to experience a comprehensive view of medicine, where foundational sciences, clinical skills, and patient interactions come together seamlessly.

Our focus on active learning and collaborative approaches will empower students to think critically, adapt to new challenges, and develop the empathy vital in our profession. By emphasizing a patient-centered methodology and incorporating real-world experiences, we aim to foster a profound understanding of the impact of medical practice on individuals and communities.

I am thrilled about the potential this curriculum holds and deeply appreciate the commitment of our faculty and staff in bringing it to fruition. Together, we will cultivate a new generation of medical professionals who are not only well-informed but also compassionate, ready to make a positive impact on their patients' lives.

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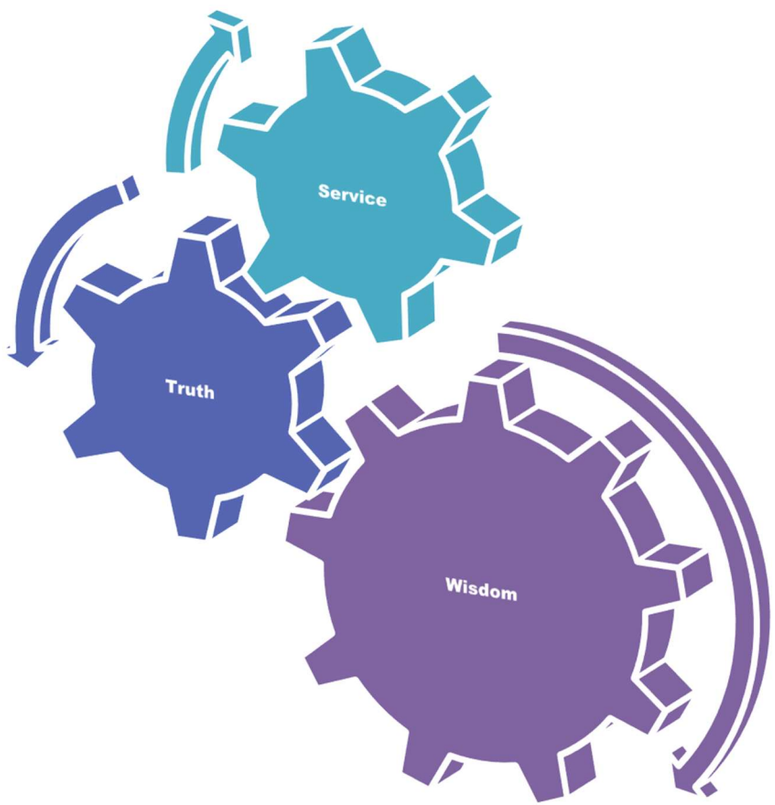
Co-Authors.

Prof. Muhammad Umar

Vice Chancellor

Rawalpindi Medical University & Allied Hospitals

RMU Motto



Vision and Values

Highly recognized and accredited center of excellence in Medical Education, using evidence-based training techniques for development of highly competent health professionals, who are critical thinkers, experiential self-directed lifelong learners and are socially accountable

Mission Statement

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

Outcomes 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 evidence-based knowledge to help you attain personal and professional growth & excellence.

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SECTION

Preamble

Modular Integrate Curriculum

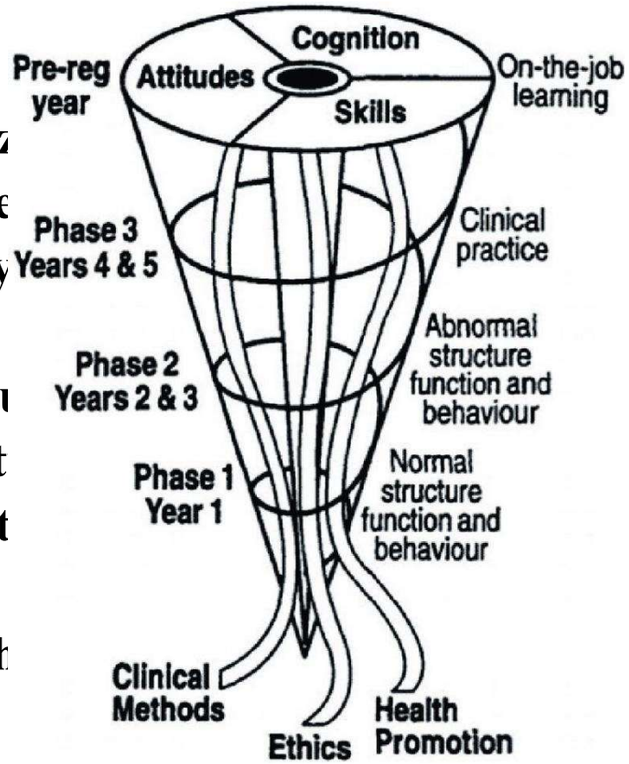
Welcome to the Clinically Oriented Integrated Modular Curriculum for the MBBS students at Rawalpindi Medical University. This revised version is tailored to integrate clinical insights from the very beginning, ensuring a more practical and application-focused approach to the fundamental medical sciences.
At Rawalpindi Medical University, we are committed to providing a curriculum that not only covers the essential theoretical knowledge but also emphasizes the development of critical clinical skills necessary for future medical professionals. This curriculum is designed to foster a deep understanding of human biology and the pathophysiological processes, combined with hands-on clinical experiences that contextualize theoretical knowledge in real-world medical settings.
curriculum incorporates the latest advancements in medical education and reflects changes in the medical landscape, ensuring our students are well-prepared to meet the challenges of modern healthcare environments. With a focus on interdisciplinary learning and ethical practice, we aim to equip our students with the competence and compassion required to excel in their future careers.
We trust that this curriculum will inspire and challenge you to reach new heights in medical education and beyond. Welcome to a journey of learning that promises to be as rewarding as it is demanding.

What is curriculum?

According to definition curriculum can be classified into five categories:

1. Curriculum as a product - program, document, electronic media, or multimedia.
2. Curriculum as a program of study - usually courses offered, curriculum sequences of study in standards as benchmarks, gateways,
3. Curriculum as intended learnings - goals, content, concepts, generalizations, outcomes.
4. Curriculum as experiences of the learner - activities, planned and unplanned.
5. Hidden curriculum - what students learn that isn't planned - unless you plan for this - or is it possible?

What is Integrated Medical Curriculum?



Shoemaker defines an integrated curriculum as "education that is organiz way that it cuts across subject matter lines, bringing together various aspe curriculum into meaningful association to focus upon broad areas of study ongoing discussion about whether

medical curriculum should be discipline based or integrated. Most curricu education have been integrated horizontally and vertically—vertically bet clinical sciences. The Flexnerian curriculum has disappeared to permit int between basic sciences and clinical sciences, which are taught throughout curriculum. We have proposed a different form of integration where the h represents the defined learning outcomes

and the vertical axis represents the teaching of the sciences throughout the courses. We believe that a mere integration of basic and clinical sciences is not enough because it is necessary to emphasize the importance of humanism as well as health population sciences in medicine. It is necessary to integrate basic and clinical sciences, humanism,and health population in the vertical axis, not only in the early years but also throughout the curriculum, presupposing the use of active teaching methods based on

problems or cases in small groups.

The method of teaching medicine, since Flexner's days, implies that students should first learn basic and biomedical sciences and then move to clinical sciences; however, this is not how patients are presented. A common criticism of this approach is that students will not see the relevance of basic and biomedical sciences applied to clinical practice, and it is preferable to encourage students to think as doctors from the day they enter medical school.

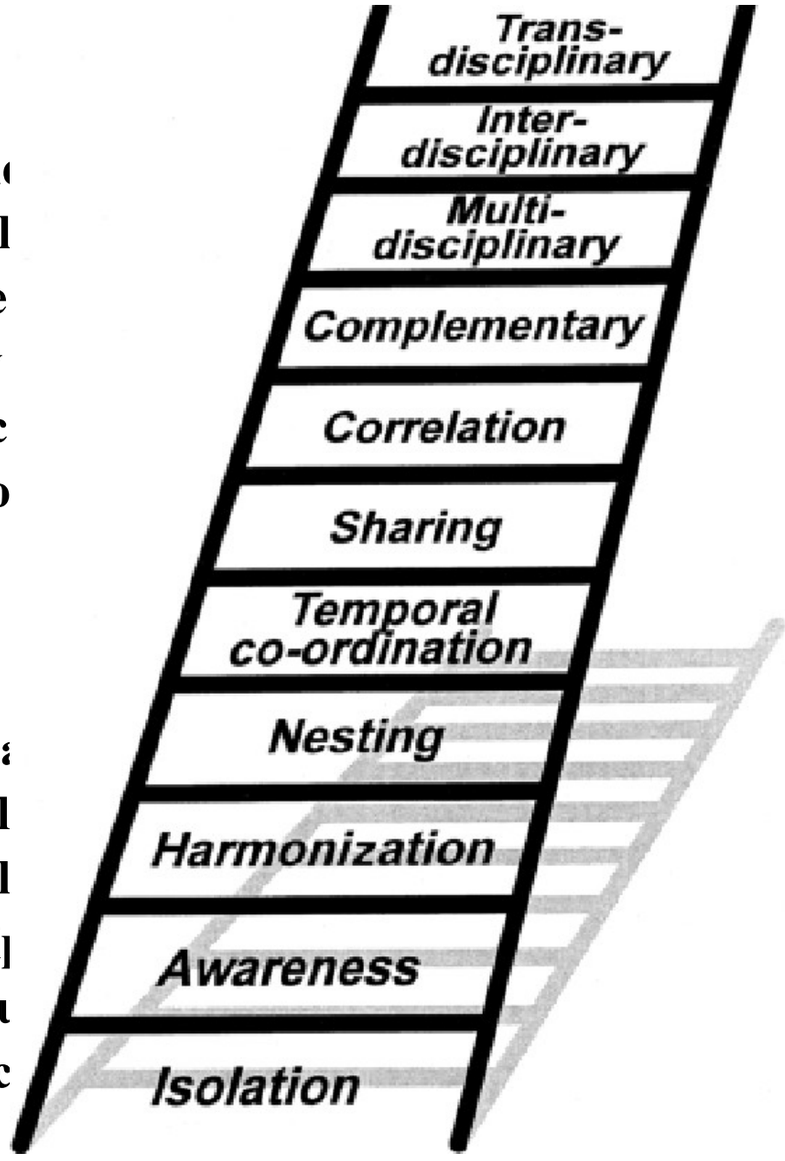
Integration is therefore of key importance for medical education because basic science learning is placed in the context of clinical and professional practice and is considered by students to be more meaningful and relevant. In the vast majority of curriculum reforms, vertical integration combines basic and clinical sciences, early clinical experience, clinician–scientist

partnerships, and incorporation of sciences in the later years of the course. This is undoubtedly an advantage, but is based on a biologist's vision of the health-illness process

Levels of Integration

At Rawalpindi Medical University, our curriculum for th the sophisticated model of Correlation, recognized as level integration. This approach is foundational throughout the medical education journey. Our emphasis predominantly education, where courses focused on individual subjects c curriculum. This traditional structure ensures a robust fo sciences.

Within this discipline-oriented framework, we introduce a integrated teaching session. These sessions are strategicall subjects by identifying and connecting areas of mutual rel a holistic learning experience by correlating distinct disci within a clinical context. This integration enhances the stu application of medical concepts, making the learning proc



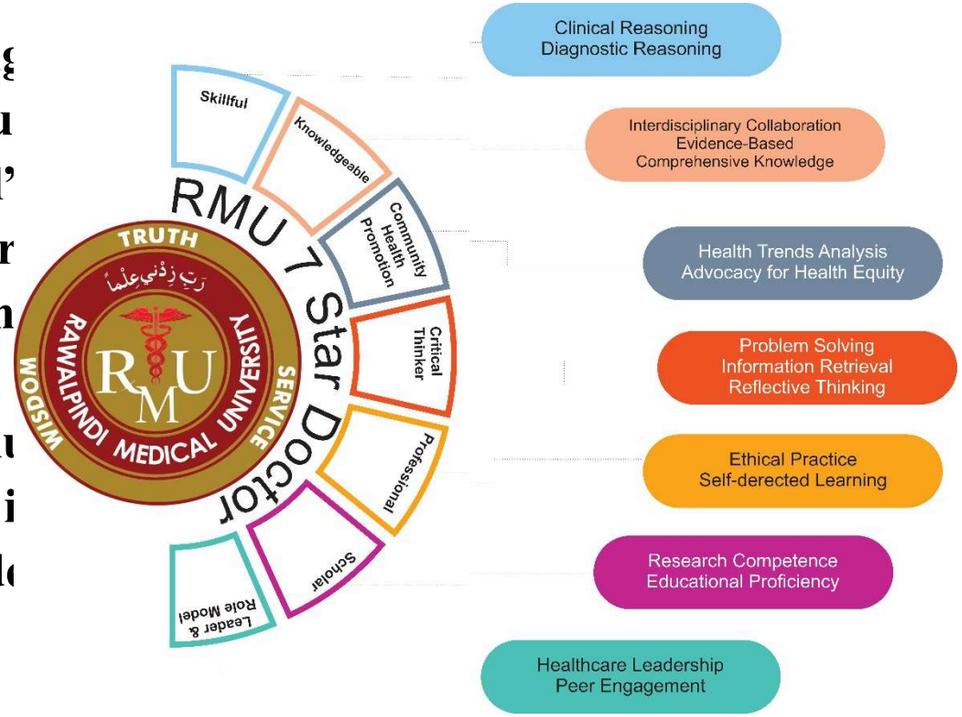
applicable to real-world scenarios.

As our students progress through their education, the degree of clinical teaching intensifies. This gradual increase is deliberate, ensuring that by the time our students reach their Fourth Year, they are well-prepared to engage in extensive clerkships. Year V is exclusively devoted to these clerkships, offering students hands-on, practical experience in a variety of clinical settings. This exposure is crucial for the development of competent and empathetic future physicians who are equipped to meet the diverse needs of their patients and the healthcare system at large.

PMDC Seven Star Doctor Competencies

At RMU we aim to produce seven-star doctor according the generic competencies of "Skill, Knowledge, Commu Thinker, Professional, Scholar, Leader and Role Model' has introduced modular integrated undergraduate curr sector university. These competencies are further outlin specifying knowledge, skills, and attitude.

Several key features have been integrated into Curriculu domains, following discussions and an iterative process i educators, and university leaders. These features include



Horizontal Integration
Cognitive Domain
The Curriculum 2K23 framework consists of 44 modules distributed over five years. It features a modular design that allows various foundational

disciplines to address themes concurrently. Each module is organized to represent all key disciplines according to their content weight. The assessment framework also incorporates applied and clinical elements into the learner's conceptual development, ensuring that clinical relevance and context remain central to the education process.
Clinical Relevance: Each module's objectives are introduced with the relevant themes and clinical significance. This approach is based on the module's rationale, guiding the learning process toward a practical professional perspective. However, institutions have the flexibility to adopt alternative thematic approaches as long as the program outcomes are met effectively.
Integration: The spiral arrangement of modules within the framework facilitates a revisiting of basic sciences. Initially, the applied and clinical learning objectives guide the learner, while the recurring modules align with clinical rotations, all framed by the foundational sciences. In the Fourth Year of clerkship, students have their last opportunity to integrate their learning, which is primarily workplace-based and combines elements from all three domains.
Clinical Clerkship
Psychomotor
Clinical Skills follow a spiral which is entirely skills dominant. This spiral is the core of psychomotor training. The rotations in different wards will be based on foundational developmental already commenced in previous years. . Community oriented practices and family medicine will also be broadening

the element of systems thinking and diversity of practice for a healthcare leader of tomorrow. Finally, Clinical Clerkships are aimed to be entirely facilitated in workplace environments. The clerkship model will involve the delegation of duties thus adding to the acquisition of professional accountability as a competency. The psychomotor training and skills acquisition will be the maximum in the year of clerkship. The entire process of C-FRC will be endorsed in a logbook which would be the training base of the learner for future references and exam evaluations.

Spiral Integration

Affective Domain

ALPHA Model:

Affective training has been formally integrated into the curricular framework through the ALPHA model, which aims to produce doctors with strong, resilient, and ethically grounded character. ALPHA stands for Artificial Intelligence, Leadership, Professionalism, Humanities & Arts , encompassing professional development for the effective application of acquired knowledge and skills. To ensure that professionals are socially accountable and capable of taking on healthcare leadership roles—such as advocacy, equity, and resource access—formal training is essential.

This training is structured through a categorical approach that includes assessing competencies and developing portfolios. The ALPHA framework will be implemented year-round through portfolio development, which promotes student-centered learning. The self-reflection involved in portfolio creation allows learners to identify and address their own educational needs.

The Medical Education department will directly oversee the ALPHA spiral, but teaching sessions and mentoring can be facilitated by other disciplines. For instance, communication skills may involve input from Family Medicine faculty, while Community Medicine and Public Health can support research training. Ethics education can be jointly provided by the Bioethics and

Behavioral Sciences departments. Leadership training will benefit from the involvement of institutional leaders and successful alumni.

The Faculty of Medical Education will manage the entire process and contribute to teaching as needed. The academic council, in collaboration with the Medical Education department, should define the types of evidence, activities, and learning situations required for competency acquisition in the portfolios. A 'mentoring platform' can embody the spirit of affective learning within the ALPHA framework, leading to the recommendation for developing a mentorship program at each institution.

RMU Competency Framework

The focus of this curriculum is on the roles of a general physician, as identified by the PMDC. These roles include being skillful, knowledgeable, a community health promoter, a critical thinker, a professional and role model, a researcher, and a leader. The competencies emphasized in the first and second years align with these roles.

RMU Competency Framework

RMU Undergraduate Competency Model

The Rawalpindi Medical University (RMU) Undergraduate Competency Model is designed to prepare medical students to meet the evolving challenges of modern healthcare. Grounded in the principles of patient-centered care, ethical practice, and community engagement, this model outlines the core competencies that every RMU graduate must attain. These competencies are carefully aligned with the needs of Pakistan's healthcare system and the broader global context, ensuring that RMU graduates are not only skilled clinicians but also ethical leaders, compassionate caregivers, and innovative problem-solvers.

The RMU Undergraduate Competency Model emphasizes a holistic approach to medical education, integrating scientific knowledge with practical skills, critical thinking, and a deep commitment to lifelong learning. Each competency is complemented by specific sub competencies that provide a clear roadmap for students' development, guiding them from foundational knowledge to advanced clinical practice.

Through this competency-based framework, RMU aims to cultivate graduates who are capable of delivering high-quality, safe, and effective care, while also advancing the health and well-being of the communities they serve. By adhering to these competencies, RMU students will be equipped to excel in diverse medical environments, adapt to the

rapidly changing landscape of healthcare, and contribute positively to the society they serve.

Competency 1: Patient Care Deliverer

The "Patient Care Deliverer" competency focuses on the practical aspects of delivering patient care. It emphasizes the importance of applying clinical skills, knowledge, and compassion in providing high-quality healthcare to patients. Students are expected to develop a strong foundation in patient-centered care, practice-based learning, and a commitment to continuous improvement in their clinical practice.

- Practice-Based Learning: Students should engage in continuous learning through practical experience, applying evidence-based medicine and reflecting on their clinical practice to improve patient care.
    - Apply evidence-based medicine in clinical practice.
    - Reflect on clinical experiences to improve patient care.
    - Engage in self-directed learning to enhance clinical skills.
- Service Orientation: A commitment to serving others is fundamental to the practice of medicine. Students should prioritize the well-being of patients and the community, demonstrating a strong dedication to providing compassionate and effective care.
    - Demonstrate a commitment to patient-centered care.
    - Engage in community service activities.
    - Reflect on the role of service in medical practice.

Competency 2: Ethical & Professional

The "Ethical & Professional" competency encompasses the foundational principles of medical ethics and professional behavior. It requires students to uphold the highest standards of legal and ethical responsibility in their practice. They must demonstrate empathy, integrity, and accountability, treating all individuals with respect and maintaining a commitment to continuous improvement.

- Professional & Ethical & Legal Responsibility: Students are expected to understand and apply ethical principles and legal requirements in medical practice. They should be able to identify and analyze ethical dilemmas in healthcare settings and make decisions that prioritize patient well-being.
    - Explain ethical frameworks in medical decision-making.
    - Apply legal standards in patient care.
    - Demonstrate professionalism in all interactions.
- Capacity for Improvement: Students should continuously strive to improve their clinical skills, knowledge, and patient care practices through self-assessment and reflective learning.
    - Assess personal strengths and weaknesses.
    - Implement strategies for self-improvement.
    - Seek feedback from peers and mentors.
- Empathy: Understanding and sharing the feelings of patients is crucial for building trust and providing compassionate care. Students must develop the ability to empathize with patients from diverse backgrounds.
    - Demonstrate empathy in patient interactions.
    - Reflect on the emotional and psychological aspects of patient care.
    - Integrate empathy into clinical practice.
- Integrity: Students must practice medicine with honesty and adhere to moral and ethical principles, ensuring that their actions align with the values of the medical profession.
    - Maintain honesty in patient interactions.
    - Uphold ethical standards in clinical decision-making.
    - Demonstrate transparency in communication with patients and colleagues.
- Accountability: Medical students must be accountable for their actions, taking responsibility for their decisions and outcomes in patient care.

    - Take responsibility for clinical decisions.
    - Reflect on the outcomes of patient care.
    - Ensure accountability in teamwork.
- Respect: Respect for patients, colleagues, and the broader healthcare team is fundamental. Students should treat everyone with dignity and consideration, regardless of differences in background or beliefs.
    - Demonstrate respect in patient interactions.
    - Collaborate respectfully with team members.
    - Address cultural differences in a respectful manner.

Competency 3: Scholar & Life-Long Learner

The "Scholar & Life-Long Learner" competency highlights the importance of continuous learning and scholarly inquiry in medical practice. Students are encouraged to engage in scientific research, develop critical thinking skills, and commit to lifelong learning to stay current in their field and contribute to the advancement of medical knowledge.

- Living Systems: Students should have a deep understanding of living systems and their functions, enabling them to apply this knowledge to patient care.
    - Explain the principles of living systems.
    - Apply knowledge of living systems to clinical practice.
    - Evaluate the impact of living systems on health and disease.
- Human Behavior: Understanding human behavior is crucial for effective patient care and communication. Students should be able to analyze behavioral factors that influence health and apply this understanding in clinical settings.
    - Analyze the impact of behavior on health outcomes.
    - Apply behavioral principles in patient care.
    - Reflect on the role of behavior in health and disease.
- Diagnose and Manage: Students must be proficient in diagnosing and managing medical conditions, using evidence-based approaches to ensure the best possible outcomes for patients.

- Diagnose medical conditions accurately.

    - Develop management plans for patient care.
    - Evaluate the effectiveness of treatment interventions.
- Scientific Inquiry: Engaging in scientific inquiry is essential for advancing medical knowledge. Students should be able to conduct research, critically appraise evidence, and contribute to the scientific community.
    - Conduct research on medical topics.
    - Critically appraise scientific literature.
    - Disseminate research findings effectively.
- Quantitative Reasoning: Quantitative reasoning skills are necessary for interpreting data and making informed decisions in medical practice. Students should be able to analyze and apply quantitative data in clinical settings.
    - Interpret quantitative data in clinical practice.
    - Apply statistical methods to medical research.
    - Reflect on the role of quantitative reasoning in decision-making.
- Critical Thinker: Developing critical thinking skills is vital for solving complex medical problems. Students should be able to analyze information, evaluate evidence, and make reasoned decisions in patient care.
    - Analyze clinical scenarios critically.
    - Evaluate evidence in medical practice.
    - Make informed decisions based on critical thinking.

Competency 4: Team Worker & Communicator

The "Team Worker & Communicator" competency emphasizes the importance of effective communication and teamwork in healthcare settings. Students are expected to develop strong oral and written communication skills, work collaboratively as part of a healthcare team, and demonstrate leadership when necessary. Reliability, adaptability, and resilience are key qualities that support their ability to function effectively in diverse and dynamic clinical environments.

- Oral and Written Communication: Students must be able to convey medical information clearly and effectively, both verbally and in writing, to patients, families, and colleagues.

    - Communicate medical information clearly.
    - Develop patient-centered communication strategies.
    - Write accurate and comprehensive patient records.
- Team Member: Students should actively participate as members of the healthcare team, contributing to collective problem-solving and decision-making processes.
    - Collaborate effectively with team members.
    - Participate in interdisciplinary case discussions.
    - Contribute to team-based patient care.
- Team Leader: When required, students should be able to take on leadership roles within the healthcare team, guiding and coordinating the efforts of others.
    - Lead a healthcare team in clinical settings.
    - Make decisions as a team leader.
    - Facilitate effective team communication.
- Reliability and Dependability: Students must consistently demonstrate reliability and dependability in fulfilling their clinical responsibilities, ensuring that they are trusted members of the healthcare team.
    - Fulfill clinical duties reliably.
    - Demonstrate dependability in patient care.
    - Maintain consistency in performance under pressure.
- Resilience & Adaptability: Students need to develop resilience to cope with the challenges of medical practice and adapt to changes in clinical settings.
    - Demonstrate resilience in stressful situations.
    - Adapt to changes in clinical practice.
    - Reflect on challenges and adapt strategies accordingl**y.**

Competency 5: Community Health Promoter

The "Community Health Promoter" competency focuses on the role of medical students in promoting health within the community. It involves educating and empowering communities, conducting assessments, and engaging with diverse populations to address public health challenges. Cultural competence and advocacy are essential in promoting health equity and improving community health outcomes.

- Health Education and Promotion: Students should be able to design and implement health education programs that address the specific needs of the community.
  - Develop health education materials.
  - Implement community health promotion activities.
  - Evaluate the effectiveness of health education programs.
- Community Assessment and Engagement: Students must be capable of assessing the health needs of communities and engaging with community members to identify and address public health issues.
  - Conduct community health assessments.
  - Engage with community stakeholders.
  - Identify public health priorities based on community needs.
- Cultural Competence: Understanding and respecting cultural differences is crucial in providing effective community health promotion. Students should be able to work with diverse populations and tailor health interventions accordingly.
  - Demonstrate cultural sensitivity in community interactions.
  - Adapt health interventions to cultural contexts.
  - Reflect on cultural influences in health behaviors.
- Advocacy and Empowerment: Students should advocate for policies and practices that promote community health and empower individuals and communities to take control of their health.
  - Advocate for community health initiatives.
  - Empower individuals to make informed health decisions.
  - Promote policies that address social determinants of health.

Competency 6: Quality & Safety Practitioner

The "Quality & Safety Practitioner" competency emphasizes the importance of patient safety and quality improvement in healthcare. Students are trained to understand and apply patient safety principles, comply with regulatory requirements, and collaborate with interdisciplinary teams to ensure the highest standards of care.

- Patient Safety Principles: Students must understand and apply patient safety principles to prevent medical errors and enhance the quality of care.
  - Identify potential safety risks in clinical practice.
  - Implement strategies to prevent medical errors.
  - Evaluate the effectiveness of patient safety interventions.
- Regulatory Compliance: Knowledge of and adherence to regulatory standards is essential in maintaining patient safety and quality care. Students must be familiar with relevant regulations and ensure compliance in their practice.
  - Understand and apply healthcare regulations.
  - Ensure compliance with legal and regulatory standards.
  - Reflect on the impact of regulations on patient safety.
- Interdisciplinary Collaboration: Effective collaboration with professionals from various disciplines is necessary to achieve optimal patient outcomes. Students should develop skills in working within interdisciplinary teams to enhance patient care.
  - Collaborate with interdisciplinary teams in patient care.
  - Contribute to interdisciplinary case discussions.
  - Reflect on the impact of interdisciplinary collaboration on patient outcomes.

Competency 7: Digital & Artificial Intelligence Literate

The "Digital & Artificial Intelligence Literate" competency prepares students to navigate the rapidly evolving landscape of digital health and artificial intelligence. Students are trained to use AI-based systems ethically and effectively in diagnosis and decision-making, ensuring that technological advancements are integrated into patient care responsibly.

- Technology and AI-Based Diagnosis and Decision-Based Systems: Students should be proficient in using technology and AI tools for diagnosis and decision-making, ensuring that these tools enhance patient care.
    - Use AI-based tools for diagnosis.
    - Evaluate the effectiveness of technology in clinical decision-making.
    - Integrate digital tools into patient care responsibly.
- Ethical Usage of AI: Ethical considerations are paramount when using AI in healthcare. Students must understand the ethical implications of AI and ensure that its application respects patient rights and autonomy.
    - Identify ethical issues in AI usage.
    - Apply ethical principles to AI-based decisions.
    - Reflect on the impact of AI on patient care.

This framework ensures that undergraduate medical students at Rawalpindi Medical University are well-prepared to excel as competent, ethical, and compassionate healthcare professionals. By meeting these competencies and their corresponding learning objectives, students will be equipped to navigate the complexities of modern medical practice and contribute meaningfully to patient care and community health.

Outcomes 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.

It involves incorporating both local needs and global standards. This ensures the curriculum's relevance to the local community while adhering to international benchmarks. For health professionals, this is crucial as it equips students to effectively serve diverse populations in real- world healthcare settings.

Content identification, contextualization, and validation during curriculum development require a balanced consideration of local and global requirements, overseen by relevant leaders and experts. To this end, Rawalpindi Medical University has engaged subject experts and medical educationists, planning to incorporate feedback from local stakeholders to address the current needs effectively.

In Pakistan, the shift towards contextualization is essential, particularly due to the country's unique healthcare challenges like infectious diseases, malnutrition, and maternal and child mortality, compounded by socioeconomic factors. The prevalence of

various diseases, limited healthcare resources, and cultural diversity necessitate a customized approach to medical education.

Contextualizing the curriculum is expected to positively influence graduate performance. By blending basic and clinical subjects, introducing early clinical exposure, and emphasizing practical, context-aware learning, graduates will be better equipped to tackle health challenges in their communities, enhancing their competence, confidence, and ability to deliver high-quality healthcare.

Context Facets of Curriculum 2024 at Rawalpindi Medical University

Rawalpindi Medical University adheres to globally recognized best practices in curriculum development. The Department of Medical Education at RMU has structured the process of syllabi identification, thematic structuring, content validation, and contextualization. This process integrates existing teaching and learning practices with global recommendations for change.
Key perspectives for the context of change include:

•The exponential growth in course content due to educational advancements, technological innovations, and scientific discoveries requires prioritization, removal of outdated concepts, and modern information transfer methods.
•Evolving societal expectations of healthcare workers necessitate balancing patient satisfaction with health system responsiveness. The curriculum should address societal needs, healthcare access, resource equity, and system awareness.
•The post-pandemic era's shift towards hybrid learning and online methodologies necessitates a curriculum that accommodates these new educational paradigms.

•The curriculum revision is aligned with global standards of Basic Medical Education and conforms to national regulations, ensuring international recognition and employability.

The curriculum incorporates training in the affective domain to address societal expectations, legal awareness, and community interaction. This includes a dedicated ‘spiral’ for affective training, with assessments for the ‘PERLs’ domain.

•Student-centered approaches, such as Problem-Based Learning, electives, self-directed learning, and portfolio development, empower students in their educational journey.

Process of Curriculum Development

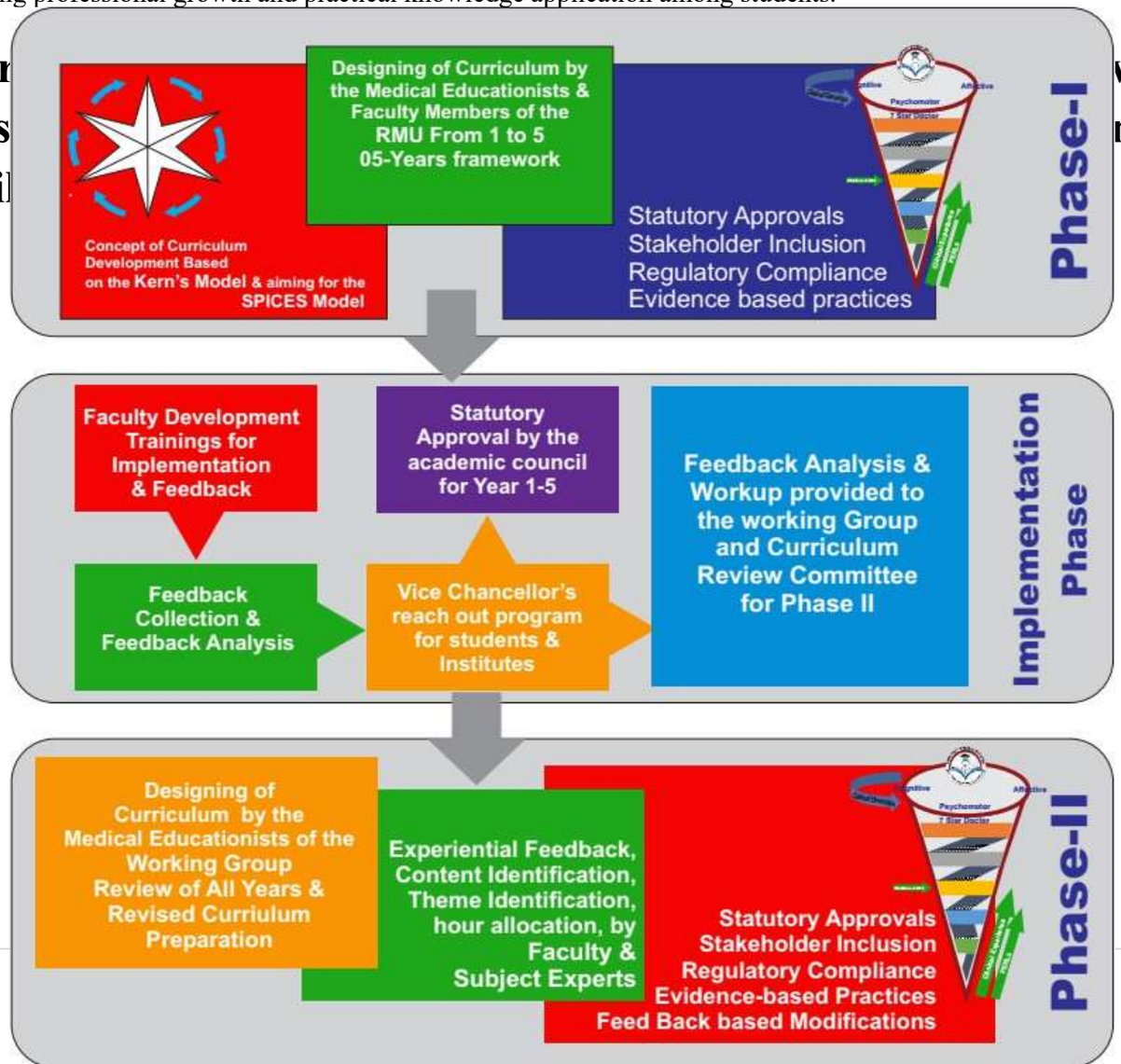
The curriculum development process at Rawalpindi Medical University was an intricate and well- orchestrated endeavor, meticulously designed to create an advanced and relevant curriculum. This process maintained a strong linkage with existing educational norms and professional practices while introducing innovative elements. Here's a more detailed breakdown of the process:

1. Syllabi Development and Expert Consultation: The first stage involved the formation of subject- specific advisory committees, engaging over 34 experts. Each committee focused on curating and refining the syllabi for their respective subjects. Their primary task was to incorporate all critical elements pertinent to each subject while discarding any obsolete or irrelevant content.
2. Curricular Committee Review: The next phase brought together a 26-member Curricular Steering Committee, consisting of medical educationists This committee played a pivotal role in scrutinizing and endorsing the overarching structure for a 'Modular Integrated Curriculum' spanning five years. Their focus areas included the identification and placement of modules, clerkship planning, and ensuring that the curriculum aligned seamlessly with various assessment techniques.
3. Theme Identification and Modular Design: In this phase, 18 medical educators engaged in a dynamic and collaborative exercise. They meticulously arranged syllabi elements into specific modules according to these themes. This step was crucial in determining the topics for each learning objective and allocating appropriate hours for each curriculum component.
4. Finalization of Modules: A select group comprising Lead Medical Educationists and members from the Department of Medical Education undertook the final step of module finalization. This involved setting the structure, themes, time allocation, syllabi content, and emphasizing clinical relevance for each module.
5. Statutory Approval and Integration: The finalized modules and their associated assessment policies underwent a rigorous approval process through the Academic Council, and the Syndicate. Feedback and recommendations gathered during this statutory process were meticulously integrated into the curriculum guidelines.

Curriculum Development Process

6. Adaptive and Feedback-Oriented Approach: Recognizing the importance of adaptability and continuous improvement, the university incorporated a system for regular feedback and curricular evaluations. This system ensures that the curriculum remains dynamic, accommodating necessary updates and refinements as needed.
7. Curriculum 2024 - A Modular Integrated Outcome-Based Approach: The developed Curriculum is a testament to a comprehensive, outcome-based educational strategy. This strategy enables affiliated colleges to implement the curriculum effectively, respecting each institution's unique identity and vision, despite variations in available resources.
8. Integrative and Contemporary Educational Strategies: The curriculum emphasizes both horizontal integration across various disciplines and vertical integration throughout different educational stages. This integrative approach is in line with modern educational theories, like Meizrow's concept of transformative learning and strategies for early clinical exposure. Such an approach is aimed at promoting professional growth and practical knowledge application among students.

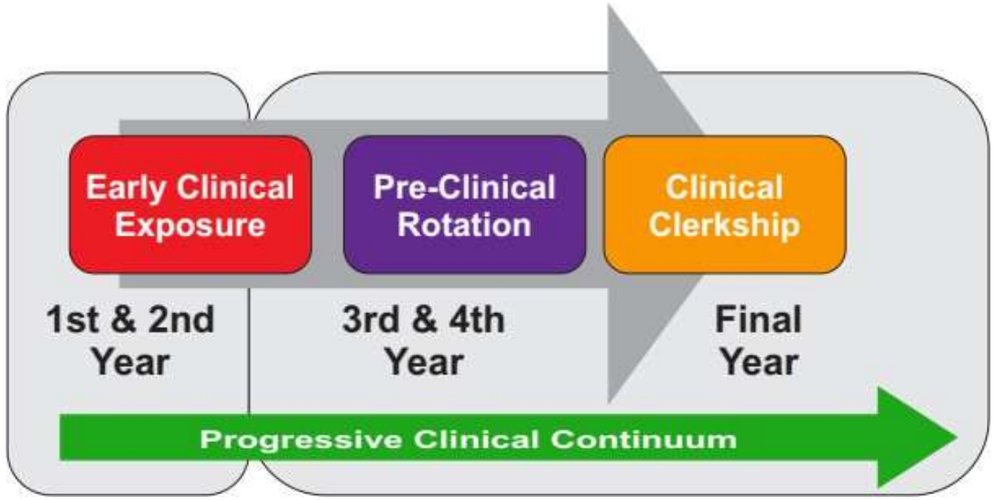
In essence, the cur **was a detailed, step-by-s** **nement, and a focus on adaptabi**



RMU will follow the Correlation approach, corresponding to level 7 of Harden's levels of integration. The emphasis remains on disciplines or subjects, with subject-based courses occupying most of the curriculum time. Within this framework, an integrated teaching session or course is introduced, in addition to the subject-based teaching. This session brings together areas of interest common to each of the subjects. Although the teaching is discipline-based, topics are correlated and taught within a clinical context for better understanding and application of concepts. However, clinical teaching increases gradually with advancing years. The fifth year of the MBBS program is dedicated to clerkships.

Integrated Curriculum Design of RMU MBBS Program

Two designs of the MBBS curriculum are acceptable by PMDC. System Based (Preferred) with horizontal and vertical integration. The curriculum of each Clinical Discipline must emphasize—Health Promotion and Disease Prevention‖, besides Curative Health Care. RMU has opted for system based modular curriculum.

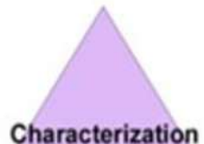

Early Clinical Exposure
Pre-Clinical Rotation
Clinical Clerkship
1st & 2nd Year
3rd & 4th Year
Final Year
Progressive Clinical Continuum

The Module: Module is the smallest unit of Curriculum both in the System- Based and Subject-Base (topic-based) Curricula. Modules are taught as a continuous block or as a longitudinal theme and assessments is carried out at the end of each module. The System-Based Curriculum made up of —Modules, where each module is based upon organ-system(s) of the body. In each module, the Basic and Clinical Sciences are taught and learned in an integrated fashion in RMU we are following the system-based curriculum.

The Module should explicit makes:

Title of Module of a System 2) Learning Objectives, 3) Allocated Time in weeks/Hours and Credit Hours, 4) the name of the Coordinator, 5) Teaching Faculty (regular/visiting) 6) Learning Sites, 8) Modes of Information Transfer, 9) List of the Recommended Books, 10) Assessment strategies, and 11) Strategies for Monitoring and Improvement.

Learning Objectives: Learning Objectives are defined for each module. They are



Specific, Measurable, Achievable, Relevant to the desired competencies (Outcomes) of the PMDC Curriculum and Time bound (SMART), related to level of the learner and the three main domains.

Level of the Learner: While developing the curriculum, the learning objectives are according to the desired level of the learner, and the assessment systems must assess the knowledge, skills and attitudes to be achieved for that level.

a. The RMU MBBS curriculum in the first four years will be delivered in a System-Based Modular Format with clinical relevance and early clinical Exposure. However, in the third and fourth years, students will gain clinical exposure through rotations in the wards and outpatient departments (OPDs), and in the fifth year through clerkships.
b. The curriculum will be delivered by modular teams consisting of multidisciplinary basic science faculty and relevant clinical faculty.

d. The planning and delivery will be coordinated by Module Team who will guide module coordinators of their respective modules for efficient implementation.

e. The Modular Coordinator will be responsible for teaching and assessment during each module. The coordinator will be appointed by the Heads of Departments (HODs) in coordination with the Health Professions Education (HPE) team.
f. The Clinical Coordinator will be responsible for placement, teaching, and assessment during clinical rotations

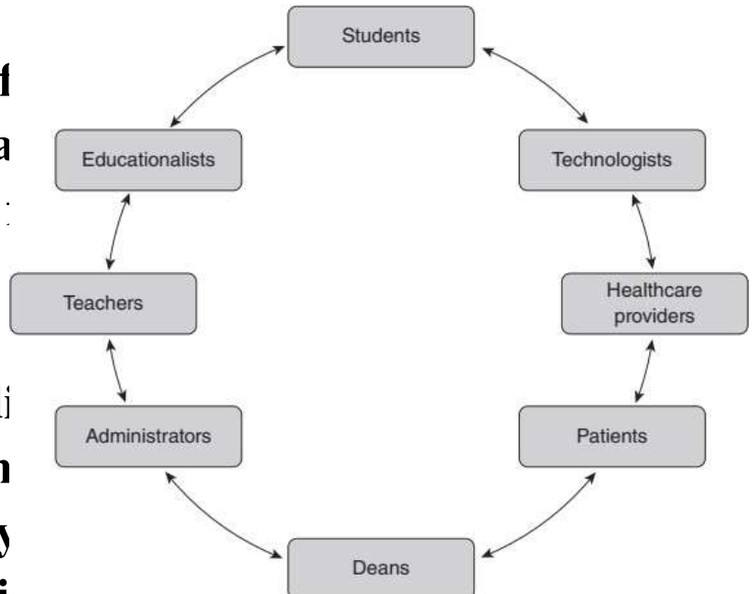
The Theoretical Frameworks Shaping the RMU Integrated Modular Curriculum

The Changing concept of Curriculum in Medical Education

The way medical curricula are structured and taught has undergone significant changes in recent decades. New approaches to education have resulted in a more cohesive curriculum that emphasizes the teacher's role as a facilitator of learning rather than a source of information. Students are now seen as active participants in the learning process rather than mere recipients of knowledge. The responsibility for curriculum planning has shifted from individual departments to committees representing different stakeholders. Key issues that need to be addressed include the mission of the medical school, learning outcomes, curriculum content, course sequence, educational strategies, teaching and learning methods, assessment procedures, educational environment, communication about the curriculum, and management of the process. The SPICES model describes a range of educational strategies that move from student-centered to teacher-centered, problem-based to information-centered, integrated to discipline-based, community-based to hospital-based, and from electives to uniform and systematic to opportunistic. (Figure-1) Spices Model of Educational Strategies

(Essential Skills For A Medical Teacher, Second Edition, Ronald M. Harden)

The concept of an authentic curriculum in medical education is gaining importance worldwide. In line with this, Rawalpindi Medical University has also made efforts to create a curriculum that is relevant and responsive to the needs of society and the healthcare system. The university has recognized the need for medical education to keep pace with the changing healthcare landscape, and has a competency-based approach to education. This means produce graduates who are not only knowledgeable bu clinical skills, communication skills, and professionalis has incorporated learning outcomes such as Leadershi Communication skills, Research skills and Bioethics in Case Based and Problem based learning sessions devel the ability of translating theory to practice since undergraduate years. By adopting an authentic curriculum, Rawalpindi Medical University aims to ensure that its graduates are well-prepared to practice effectively for the benefit of their patients and the community at large.



Rawalpindi Medical University recognizes the importance of
medical education. In order to achieve this, the university ha
approach among different stakeholders, including students,
professionals, and the community.
One of the ways that Rawalpindi Medical University fosters
implementing horizontal and vertical integration in the medi
continuum of the integration ladder. (Figure 2) By integratin
taught in the same phase of the curriculum, such as anatomy
surgery, paediatrics, obstetrics, and gynecology, students gain a more comprehensive understanding of medical concepts. Moreover, students are introduced to patients from the first year of the curriculum, allowing them to apply their knowledge in clinical settings.
In addition, the university believes that collaboration should extend beyond the different subject experts working together to deliver an integrated program. All stakeholders, including students, faculty, healthcare

professionals, and the community, should work together in the planning and implementing of a curriculum. (Figure 3) They collaborate in specifying learning outcomes, planning the approaches to teaching, learning, and assessment, and evaluating the effectiveness of the program.

The stakeholders in curriculum development.

(Mennin, Stewart, and Ronald Harden. Routledge international handbook of medical education., 2016. Pg 120)

Furthermore, Rawalpindi Medical University recognizes that collaboration is necessary across the different phases of education, including undergraduate, postgraduate, and continuing education. By breaking down silos and fostering communication between these different phases, the university ensures a higher level of collaboration and progress. This collaborative approach to medical education ensures that students graduate with the necessary skills and knowledge to meet the changing needs of the community.

The Involved Student

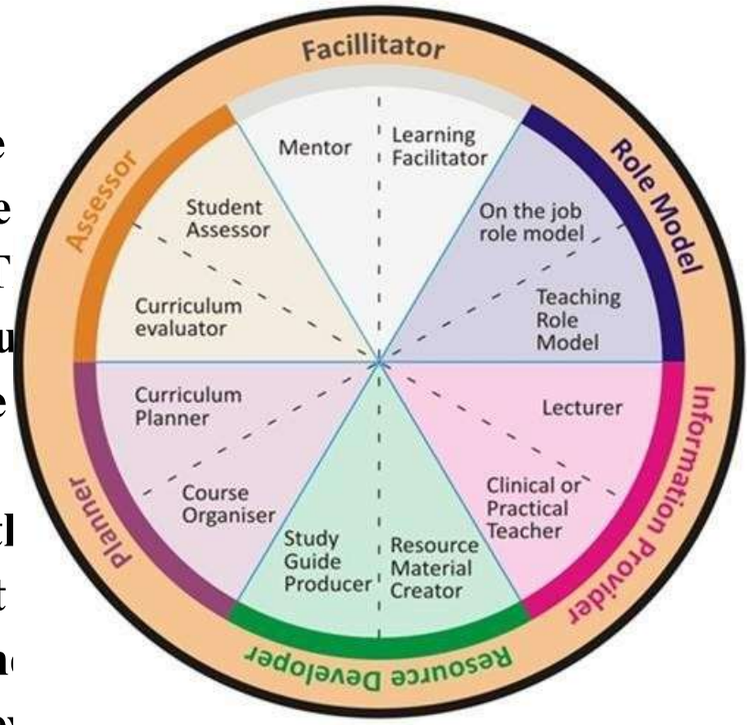
In Rawalpindi Medical University, students play a crucial role in the curriculum. There has been a shift in the perception of the student's role, where they are no longer seen as mere products of the education system, but as active partners in the learning process. The focus is on student-centered learning, where the emphasis is on what the students learn rather than what the teachers teach.
To facilitate this, the university provides study guides and clear statements of the expected learning outcomes, encouraging students to take responsibility for their own

learning. The university also supports personalized adaptive learning, recognizing that each student is different in terms of their abilities, previous experiences, learning styles, and aspirations.

The university has implemented various strategies, including problem-based learning, case-based learning, peer-to-peer learning and flipped classrooms, to support student-centered learning. Students are also actively engaged in the educational program, serving on committees, participating in policy decisions, and shaping the teaching and learning experience.

In Rawalpindi Medical University, students have the opportunity to engage in the research program, representing the school and contributing to national and international education seminars. They may also be involved in the delivery of the teaching program as peer teachers or developers of learning resources. Overall, students in Rawalpindi Medical University are valued partners in the learning process, actively engaged in shaping their educational experience.

A broader role of Teachers



Rawalpindi Medical University places great importance on the success of a curriculum. We understand that the input of the te not more significant, than the design of the curriculum itself. T training and development of our faculty through a regular facu to ensure that they are equipped with the necessary knowledge teach our students.

Our teachers play multiple roles in the curriculum, including tl provider, role model, facilitator of learning, assessor of student planner. (Figure 4) They are not simply lecturers, but rather m help our students navigate the complex world of medicine. They work tirelessly to create an educational environment that supports the learning of our students and encourages appropriate learning behavior.

Our teachers also serve as facilitators of learning, guiding our students to access, select, and evaluate a wide range of resources that will help them achieve their learning outcomes. They work with individual students to support, motivate, and inspire them, promoting a sense of ownership of the course and their studies.

As assessors of student progress, our teachers monitor the progression of our students through the curriculum, identifying any problems related to their progress and guiding their studies to meet their individual needs. They provide feedback and support to students who may require remedial teaching, as well as guidance to those who have mastered a topic and are ready to explore more advanced areas.

Finally, our teachers are integral to the development of our authentic curriculum, which mirrors the mission of our medical school and relates to the needs of our community. They work collaboratively to ensure that our curriculum is up-to-date, relevant, and responsive to the changing landscape of healthcare.

At Rawalpindi Medical University, we recognize the critical role that our teachers play in the success of our curriculum and, ultimately, in the success of our students. We are committed to providing them with the training, resources, and support they need to continue to be effective mentors, guides, and role models for our future medical professionals.

SECTION-

Teaching and Learning Methodologies / Strategies

Large Group Interactive Session (LGIS)

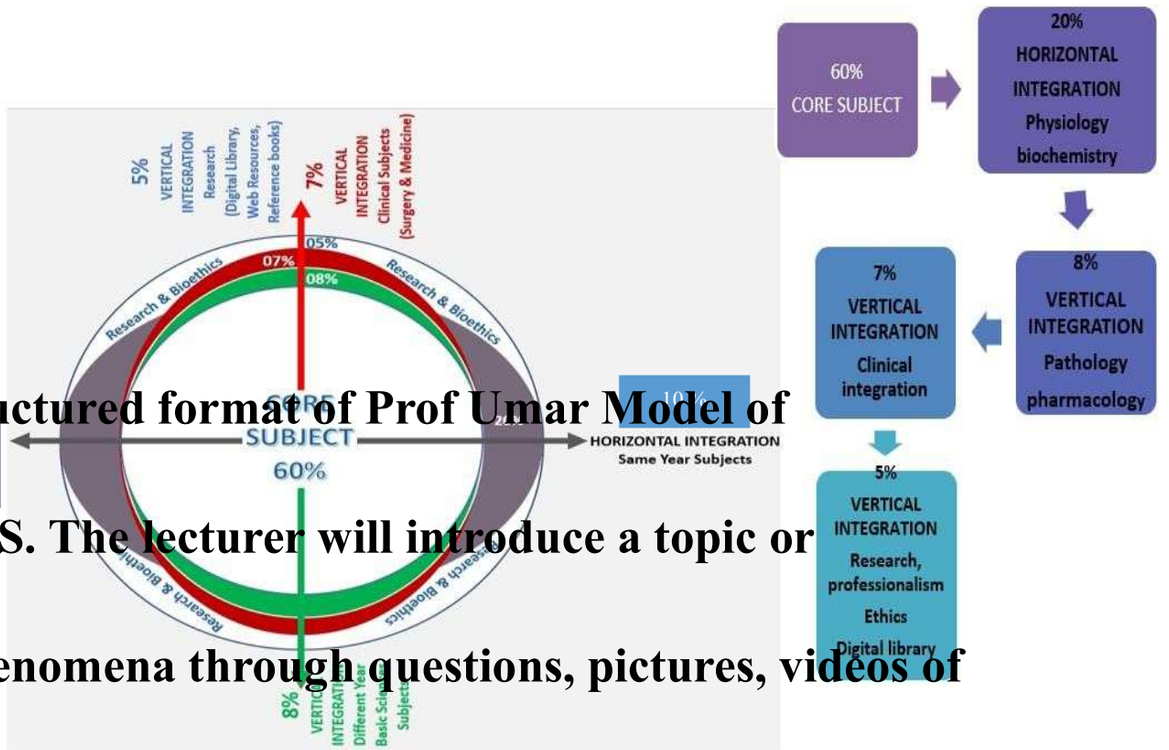
Case Based Learning (CBL)

Skill Labs/Practical (SKL)

Bed side teaching

Teaching and Learning Methodologies / Strategies

Large Group Interactive Session (LGIS)



The large group interactive session is structured format of Prof Umar Model of Integrated lecture.

It will the followed for delivery of all LGIS. The lecturer will introduce a topic or common clinical

condition and explains the underlying phenomena through questions, pictures, videos of

patients, interviews, and exercises, etc. Students are actively involved in the learning process.

Prof Umar's Model of Integrated Lecture

Table 2. Standardization of teaching content in Small Group Discussions

Table 3. Steps of Implementation of Small Group Discussions

Practical Sessions/Skill Lab (SKL)

Demonstration/ power point presentation 4-5 slide	10-15 minutes
Practical work	25-30 minutes
Write/ draw and get it checked by teacher	20-25 minutes
05 mcqs at the end of the practical	10 minutes
At the end of module practical copy will be signed by head of department	
At the end of block the practical copy will be signed by Head of Department, Dean, Medical education department, QEC	

Case Based Learning (CBL)

It's a learner centered model which engages students in discussion of specific scenarios that typically resemble 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.

BED SIDE TEACHING (BST)

Bedside teaching is a fundamental component of clinical training and an essential tool in the creation of a competent physician. It allows the students to learn clinical skills, clinical reasoning ,physician-patient communication, empathy, and professionalism.

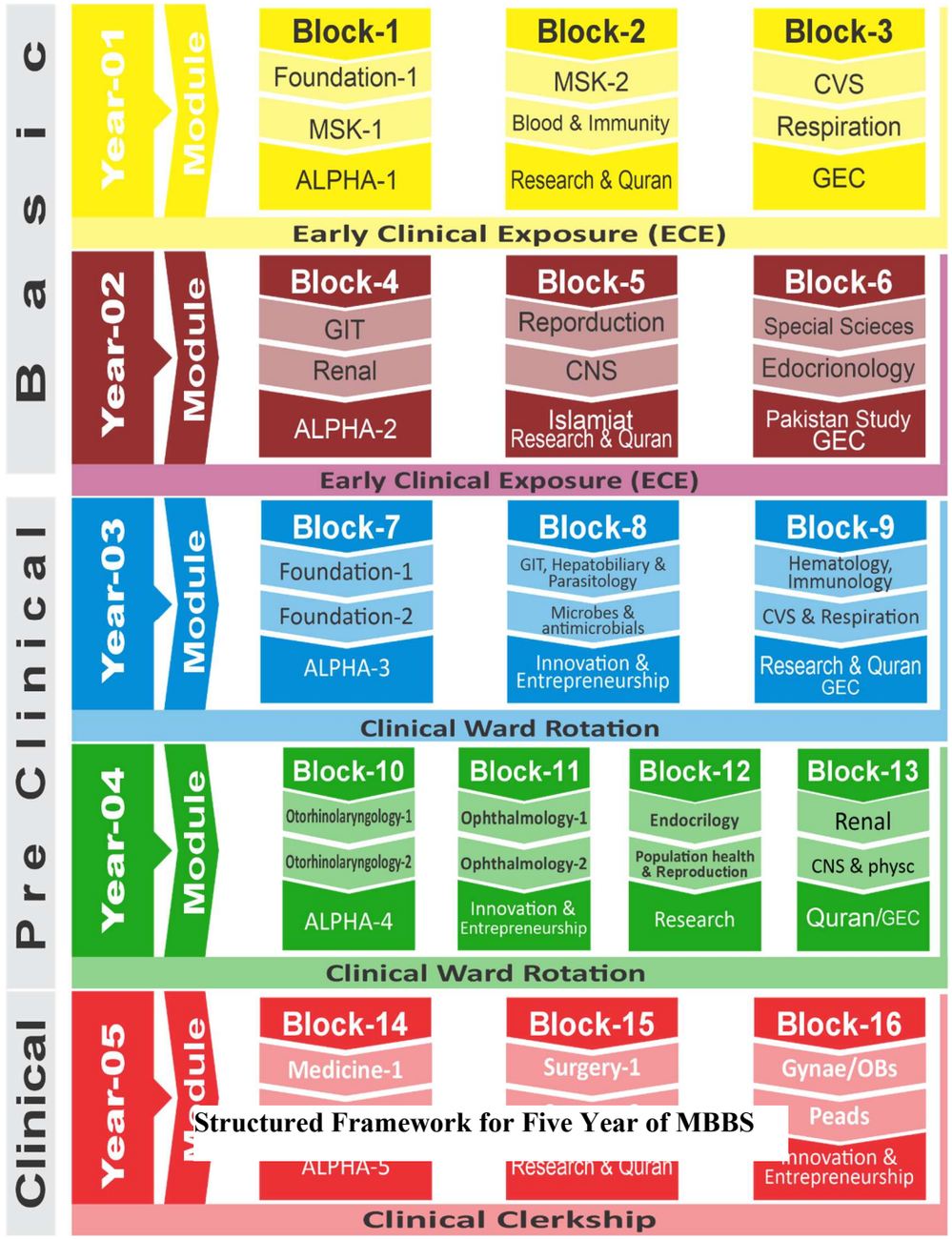
cases are allocated to students at the start of their ward rotation.

They prepare their cases according to the schedule under supervision of senior registrar of wards.

They present the cases in consultant class.

SECTION

Structured Framework of
Clinically Oriented Integrated Modular Curriculum 2025



Structured Framework for Five Year of MBBS

Structured Framework of Clinically Oriented Integrated Modular Curriculum 2025

Sr. No	Class	Module	Duration	Block
1.	First Year MBBS	Foundation Module	6 weeks	Block-I
		MSK-I Module	5 weeks	
		MSK-II Module	5 weeks	Block -II
		Blood & immunity Module	5 weeks	
		CVS Module	6 weeks	Block -III
		Respiration Module	5 weeks	
		General Education Cluster Module	1 week	
2.	Second Year MBBS	Gastrointestinal tract Module	5 weeks	Block-IV
		Renal module	5 weeks	
		Reproduction Module	4 weeks	Block -V
		Central nervous system module	6 weeks	
		Special Senses Module	4 weeks	Block -VI
		Endocrinology Module	5 weeks	
3.	Third Year MBBS	Foundation 1	4 weeks	Block- VII
		Foundation II	4 weeks	
		GIT, Hepatobiliary & Parasitology	5 weeks	Block - VIII
		Microbes & Antimicrobials	7 weeks	
		Hematology, Immunology & Research	5 weeks	Block - IX
		CVS & Respiration	5 weeks	
4.	Fourth Year MBBS	Otorhinolaryngology 1	2.5 weeks	Block- X
		Otorhinolaryngology II	3 weeks	
		Ophthalmology I	2.5 weeks	Block - XI
		Ophthalmology II	3 weeks	
		Endocrinology	5 weeks	Block -XII
		Population Health & Reproduction	6 weeks	
		Renal	4 weeks	Block – XIII
		CNS & Psychiatry	6 weeks	
5.	Fourth Year MBBS	Medicine & Allied	12 weeks	Block- XIV
		Surgery & Allied	12 weeks	Block- XV
		Gynae & Peads	12 weeks	Block- XVI

Fourth Year Contact Hours Surgery and Allied

Teaching hours – Surgery

Total 309 Hours across five years

Session	Year	Contact Hours	Contact Hours of Orthopaedic Surgery
2020-2021	I	08	
2021-2022	II	10	
2022-2023	III	14	
2023-2024	IV	105	
2024-2025	V	174	

*Note: All dates are subject to change.

ACADEMIC CALENDAR Session 2021-2022

2024	2024-25																																																			
	February			March					April							May					June				July				August					September					October				November						December				
	12	17	26	9	12	13	15	31	8	10	14	16	17	22	30	5	8	21	27	30	3	5	17	24	3	24	18	30	1	5	13	16	17	6	24	26	27	30	10	21	23	31	3	11	12	13	17	21	18	25	2	3	23
	Block I												Block II																				Block III											Preparation Leaves										
3rd YEAR	Foundation Module-I				Module Exam	Foundation Module-II				Eid ul Fitar		Block Exam II	GIT HEPATOLOGY & PARASITOLOGY MODULE	Sports Week+ Spring Vacations			GIT HEPATOLOGY & PARASITOLOGY MODULE (Conti)				Module Exam	MICROBES & ANTIMICROBIALS		Summer Vacations			MICROBES & ANTIMICROBIALS (Conti)					Block Exam II	Hematology & Immunology Module			Module Exam	CVS & RESPIRATION MODULE						Block Exam III	Preparation Exam Break	GEC Module	Sendup Block Exam I	Sendup Block Exam II	Sendup Block Exam III	Annual Prof		Final Prof Result 2025		

Prepare by DME-NTB 22-1-24

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Contact Hour Distribution for Orthopaedics

Fourth Year MBBS

Blocks	Modules	LGIS	CLINICAL CLERKSHIP	Self-Directed Learning	Total Hours
Surgery & Allied (Orthopaedics)		22	32	21	75

I. Overview

Message from the Vice Chancellor, Rawalpindi Medical University

The Fourth Year of the MBBS program, including allied disciplines, represents a pivotal stage in medical education, serving as a crucial transition from theoretical knowledge to practical clinical expertise. Our comprehensive curriculum integrates interactive learning sessions (LGIS), a variety of clinical placements, and continuous assessments, all designed to develop well-rounded, competent, and compassionate healthcare professionals. This document outlines the gives details of Fourth Year MBBS Medicine and Allied curriculum. Our dedicated faculty members serve as committed mentors, guiding students through this intensive year of training. At the same time, students are encouraged to actively engage in their learning journey, taking full advantage of the opportunities for hands-on experience and knowledge application. We share a collective responsibility to maintain and uphold the highest standards of medical education. Together, let's work towards equipping our graduates with the necessary skills and knowledge to excel as junior doctors and allied healthcare professionals, making a significant positive impact on the communities they serve.

II. Context/Preamble

Surgery is a comprehensive specialty focused on delivering both primary and specialized care to adult patients. As such, it is a fundamental component of the undergraduate curriculum at Rawalpindi Medical University, woven throughout the five-year MBBS program with an intensified focus during the final three years. The primary objective of our curriculum is to equip students with the essential knowledge, skills, and professional attitudes required for the effective practice of medicine at the primary care level.

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Additionally, it prepares students to pursue advanced postgraduate studies in clinical practice, medical education, and research, fostering a commitment to lifelong learning and professional development.

III. Mission

Our mission is to make 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.

IV. The objectives of the program

The program objective is to establish a foundation for independent practice after graduation as a general practitioner and involves the principal aspects of health improvement, preventive medicine, and acute and chronic care in the domain of medical disorders.

a) Knowledge

1) Acquisition of the knowledge and the ability to apply it in approach to the common complaints and symptoms in medical diseases.

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2) Knowledge of common medical diseases and the ability to apply it to primary medical care of the patients within the limits of general practitioner's duties.

3) Acquisition of the knowledge of simple procedures in outpatient setting that general practitioner must be able to do.

b) Skill:

1) Ability to take clinical history and do accurate clinical examination in the surgical patients
2) Ability to do basic surgical techniques
3) Ability to interpret results of common laboratory tests and imaging techniques in surgery.

c)Competencies

a) Communication skills
b) Critical thinking
c) Problem solving
d) Clinical skills
e) Examination skills
f) Procedural skills

V. Learning Outcome

At the end of Fourth Year, student will be able to:

a. Diagnose common Surgical problems, suggest and interpret appropriate investigation, rationalize treatment plan and if appropriate, refer patient for specialist opinion management**.**
b. Suggest preventive measure for the common Public Health Problem in the community
c. Perform relevant procedures
d. Convey relevant information and explanations accurately to patients, families, colleagues and other professionals .
e. Understand medical ethics and its application pertaining to surgery and maintain the confidentiality of the patient.
f. Adapt research findings appropriately to the individual patient situation or relevant patient population **.**

VI. Teaching Hours- Orthopaedics

Total Hours	75
LGIS	22
Clinical Rotation (4 days/week for a total of 2 weeks (4 hours/day)	32
Self-Directed learning	21

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VII. PMDC minimum requirement for Fourth Year MBBS 360 hours

Sessions	YEARS	CONTACT HOURS
2023-2024	V	552
2022-2023	IV	
2021-2022	III	
2020-2021	II	
2019-2020	I	

VIII. Learning Strategies &Situations

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A variety of pedagogies are used in this course, including didactic teaching, team-based and evidence-based learning in class rooms and patient side environment. Students are encouraged to adopt and inculcate self-learning strategies during the course

IX. Learning Opportunities

1. Teaching Ward Rounds
2. Case presentations
3. Case based Discussion
4. Short cases in OPD
5. Bedside Discussion
6. Small Group Discussion
7. Workshops
8. Self-learning Activities

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9. Skill Lab Activity
10. Observation of operations in OT

X. Venues for learning opportunities

1. Outpatient clinic
2. Emergency room
3. Inpatient ward
4. Tutorial room
5. Libraries including audio-visuals
6. Operation Theatres

XI. Specific Learning Outcomes

Learning outcomes specific to the surgery course have been tabulated below in the table of specification and matched with educational strategies.

XII. Implementation of curriculum

*The university will give details of all content including learning outcomes and table of specifications, distribution of which across the five years and rotations is upon the discretion of the medical college/institute.

XIII. Attendance & Discipline:

1. A record of attendance of medical students, /test results, end of module/rotation test result, workshop marks should be updated regularly.
2. Each Head of unit would keep a log of all clinical activities

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3. Attendance of each student would be endorsed in his logbook as well.
4. Overall 85% attendance is mandatory to appear in final professional examination

XIV. Assessment

INTRODUCTION

The Fourth Year MBBS Surgery and Allied Block at Rawalpindi Medical University represents the culmination of undergraduate medical education. It spans 12 weeks and integrates theoretical knowledge with practical clinical skills, preparing students for the professional demands of medical practice. This program is structured into three modules, each lasting four weeks. The first two modules focus on clinical placements in different medical units, allowing students to gain hands-on experience in managing patients. The third module exposes students to specialized areas For Two weeks in Urology, Orthopedic Surgery, Plastic Surgery, Pediatric Surgery, Neurosurgery and Vascular Surgery, respectively such as with each specialty receiving focused
training for one week.

The assessment approach for this block is rigorous, ensuring that students demonstrate proficiency in both theory and clinical skills. The theoretical component consists of multiple-choice questions (MCQs) and structured short-answer questions (SAQs) that test a broad range of topics, from respiratory and cardiovascular medicine to emergency

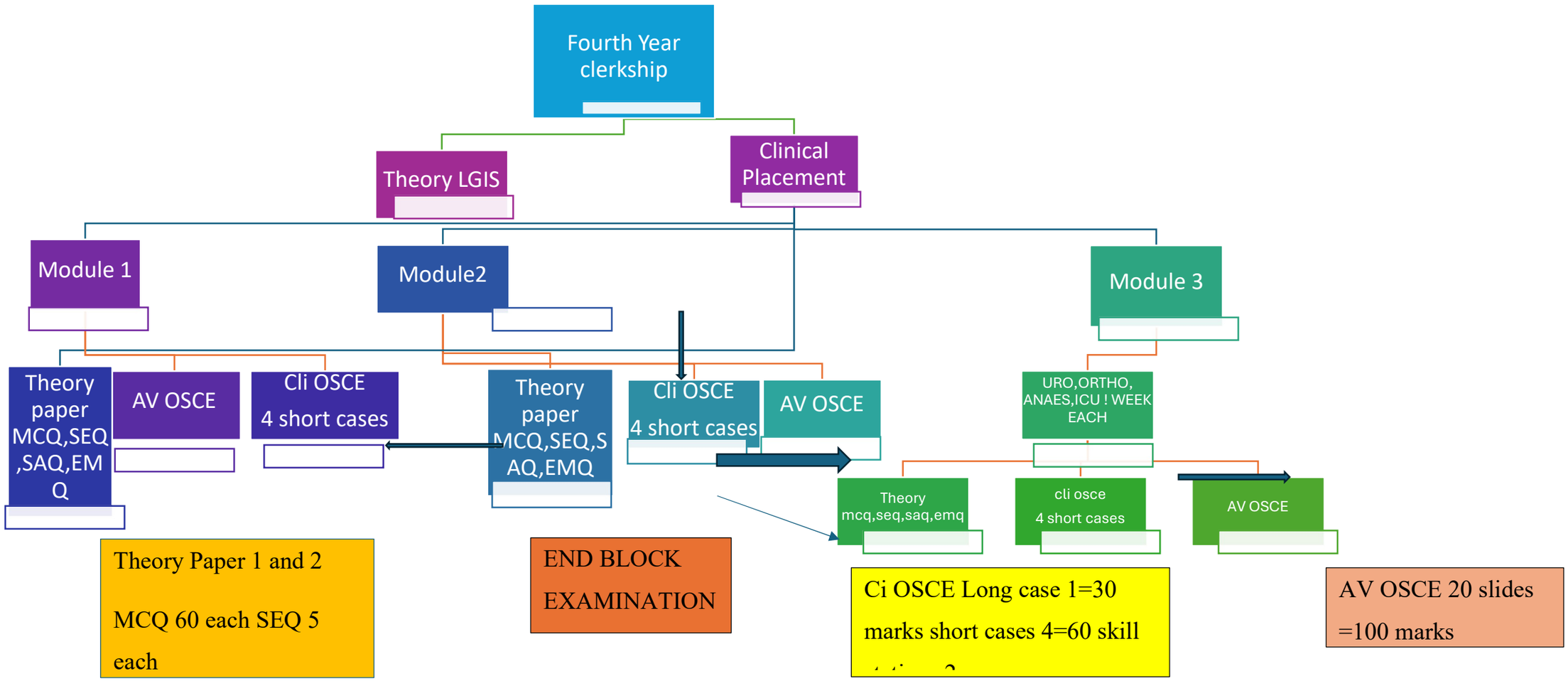
medicine and endocrinology. In addition, clinical skills are assessed through the Clinically Integrated Observed Structured Clinical Examination (Ci-OSCE) and the Audio-Visual OSCE (Av-OSCE), which simulate real-world medical scenarios. This comprehensive system ensures that students are well-prepared for the final professional medicine and allied assessments, which will take place during the End Block assessment.

SUMMARY

The 12-week Fourth Year MBBS Surgery and Allied Block at Rawalpindi Medical University is designed to offer a blend of theoretical knowledge and clinical practice. Divided into three modules, each lasting four weeks, the program covers a broad spectrum of clinical training and specialization. Modules I and II are dedicated to clinical placements in various medical units, while Module III focuses on specialized fields like Urology, Orthopedic Surgery, Plastic Surgery, Pediatric Surgery, Neurosurgery and Vascular Surgery. Each of these specialties is taught intensively over a one-week period. Assessments are conducted at the end of each module and include both theoretical and clinical components. Theory assessments consist of MCQs and SAQs, with topics covering essential areas such as trauma, Endocrinology, GIT, Hepatobiliary and vascular system. Clinical assessments involve Ci-OSCE and Av-OSCE exams, which test students' abilities in patient care, life support, counselling, and ethical decision-making. The End Block assessment is particularly comprehensive, with a total of 7 hours allocated for theory and clinical exams. This includes two separate theory papers, each covering multiple disciplines and featuring 60 MCQs, SEQs, SAQs, and EMQs. Clinical skills are tested through long and short cases, along with OSCE stations that evaluate critical

clinical judgment and procedural skills. This structure ensures that graduating students have a well-rounded clinical education and are equipped with the necessary competencies for their medical careers.

FOURTH YEAR CLERKSHIP - SURGERY BLOCK



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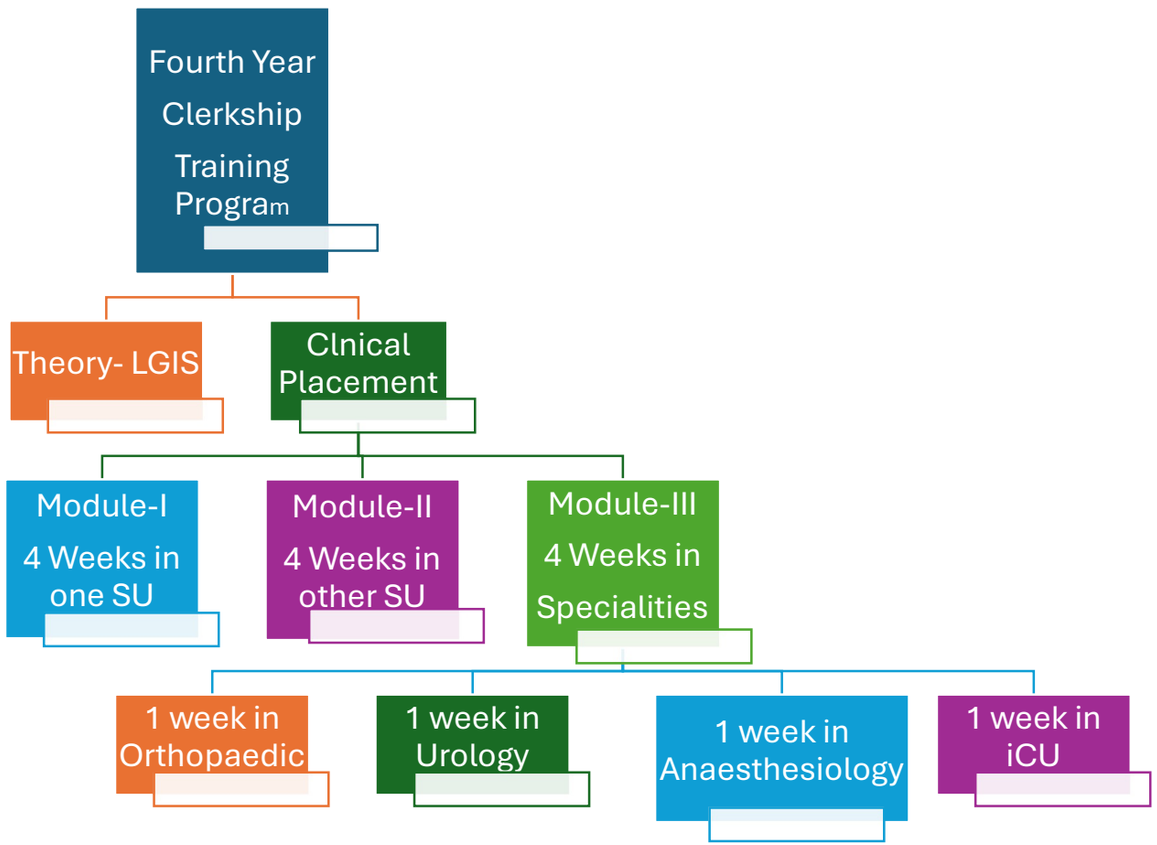
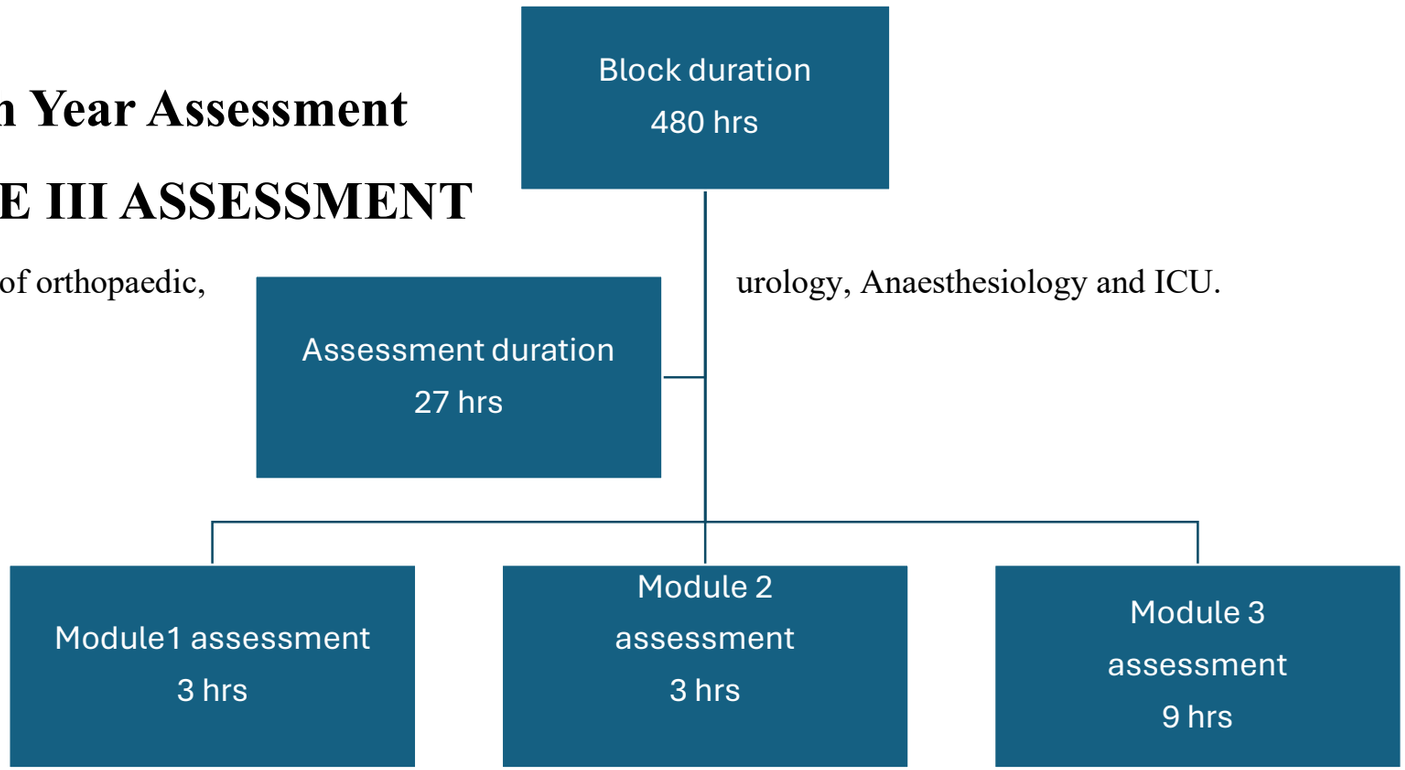

Fourth Year Clerkship Training Program
Theory- LGIS
Clnical Placement
Module-I 4 Weeks in one SU
Module-II 4 Weeks in other SU
Module-III 4 Weeks in Specialities
1 week in Orthopaedic
1 week in Urology
1 week in Anaesthesiology
1 week in iCU

TRAINING DURATION AND ASSESSMENT HOURS COMPARISON (480:22=5.6%)

Fourth Year Assessment

MODULE III ASSESSMENT

Pattern for each of orthopaedic, urology, Anaesthesiology and ICU.



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Theory Paper

Components	MCQs	SEQ	SAQ	EMQ
Questions	20	3	3	1
Marks : 60	20	15	15	10
Time : 60 mins	20 min	15 min	15 min	10 min

Clinical

Short cases	Ci-OSCE*			Total
	Surgical skill	Counselling	Ethics	
4	1	1	0	6

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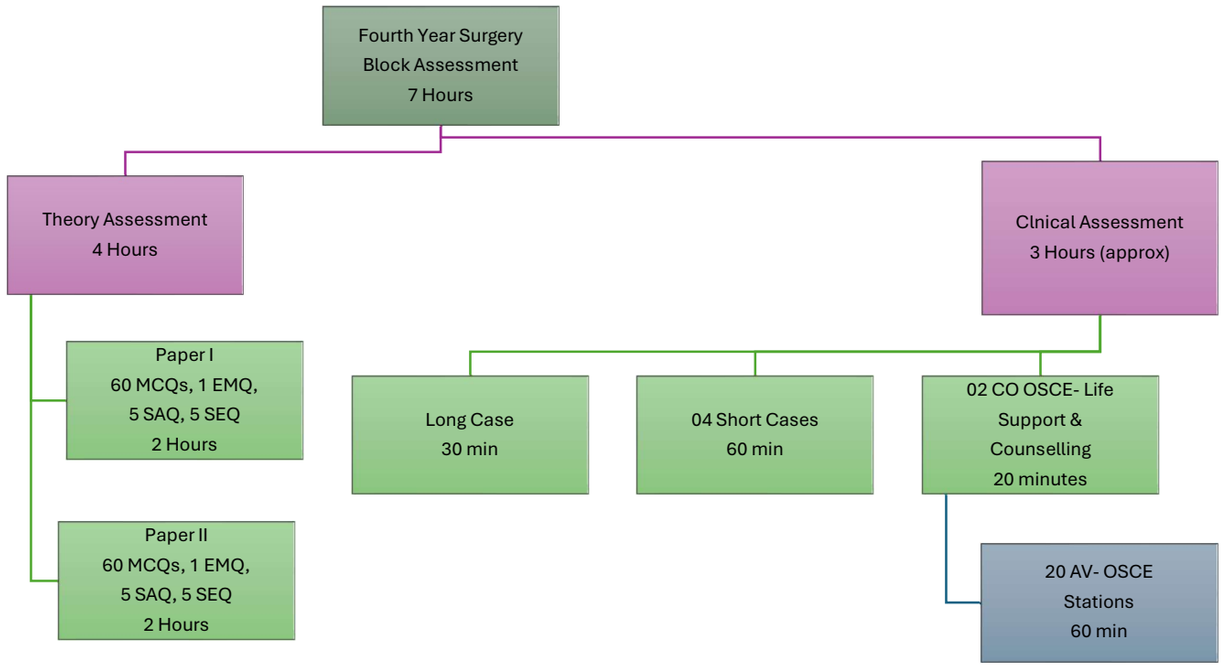
15 marks each/60 marks	10 marks	10 marks		80
15 minutes each and total 60 min	10 minutes each	10 minutes each		1 Hours 20 minutes
AV-OSCE**				
Stems/Station	Marks	Time		Total
5	50	3min/slide		30 min

*CI-OSCE: Clinically Integrated Observed Structured Clinical Examination

**Av-OSCE: Audio-visual Observed Structured Clinical Examination. AV-OSCE according to EBA AV-OSCE scheme

Fourth Year End Block Assessment



END BLOCK ASSESSMENT FOURTH YEAR MBBS SURGERY AND ALLIED BLOCK

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THEORY

Component	Details		Marks
Theory Papers	**Paper 1** - 60 Multiple Choice Questions (MCQs) per paper - 5 Short Essay Questions (SEQs) per paper - 5 Short Answer Questions (SAQs) per paper - 1 Extended Matching Question (EMQ) per paper	**Paper 2** - 60 Multiple Choice Questions (MCQs) per paper - 5 Short Essay Questions (SEQs) per paper - 5 Short Answer Questions (SAQs) per paper - 1 Extended	**60** **15** **15** **10** **Total:100*2+200**

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		Matching Question (EMQ) per paper	

Clinical

Ci-OSCE Objective Structured Clinical Examination (OSCE)	**Long Case** **- 1 Long Case** **- Duration: 30 minutes** **Short Cases** **- 4 Short Cases** **- Duration: 15 minutes each** **60 min total**	**50** **15 each** **Total: 110**
Skill Stations	- Series of clinical and procedural skill stations - Each station assesses specific skills	**10 marks per station** **20**

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	Duration: 10 min each 20 min total.	**Total: 130**
Video-Based Objective Structured Practical Examination (OSPE) **AVOSPE**	- 20 slides presented - 5 stems per slide - 3 minutes per slide - Each slide assesses clinical reasoning and decision-making	**5 marks per slide** **Total: 100 marks**
Examination Timing	- Theory papers and OSCEs scheduled over consecutive days - Punctuality and preparedness are required	**Theory:2 hrs 40 min** **OSCE: 130 min**

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Table of Specification (TOS)

End-Block Examination, Fourth Year MBBS

Sr. #	Topics	MCQs	SEQs	SAQs	EMQs
1	**Head & Neck**	4		1	
	Parotid Swelling				
	Submandibular gland swelling				
	Neck Mass				
	Neck swelling moving with deglutition				
	Parathyroid				
	TEF				
2	**Thorax**	4		1	
	Opacity of chest x-ray,				
	Mediastinal mass,				
	Malignant pleural effusion				
	Dysphagia				
3	**Breast**	4	1		
	Lump breast in teens				
	Hard breast mass				
	Reconstructive breast surgery				
4	**Abdomen**	8	2		
	Acid Peptic Disease				1
	Upper GI Malignancies				
	Left And Right Iliac Fossa Mass				
	Gas under diaphragm				
	Acute intestinal obstruction				
	Gross abdominal distension				
	Non-surgical acute abdomen				
	Pain RHC				
	Surgical jaundice				
	Pain epigastrium radiating to back				
	Abdominal hernia				
	Ventral abdominal defects				
	Inguino-scrotal swelling				
	Puffiness of face and buffalo hump				

	Incidentalomas				
5	**Pelvis**	**5**	**1**		
	Mass Coming Out Of Rectum				
	Peri-anal Pathologies				
	Hematochezia and melena				
6	**Surgical Sub-specialties**	**8**		**2**	
	Neonatal Anorectal Malformation				
	Neonates obstructive jaundice				
	Intermittent claudication				
	Acute limb ischemia				
	Varicose veins				
	Endovascular procedures				
	Lymphedema				
	Renal transplant				
	Undescended testis				
	Reconstruction following head and neck surgeries (Split thickness, full thickness skin grafts, pedicle flaps and free flaps, reconstruction ladder complication of head and neck reconstruction)				
	Epidural and spinal anesthesia				
	Burn, Principals of nutritional assessment and TPN management				
7	**Skin and soft tissues**	**2**		**1**	
	infections, Soft tissue swelling of extremity, Malignant melanoma, Ulcerated lesions of face,				
8	**Trauma**	**5**	**1**		
	Airway management				
	Abdominal trauma				
	Thoracic trauma				
	Extremity trauma and compartment syndrome (ABC , role of fast scan, resuscitation and iv fluids, Pre-requisites of abdominal surgery , laparotomy for abdominal trauma, chest intubation, indications of thoracotomy, Classifications of fractures , treatment range ,diagnosis and management of compartment syndrome) Pediatric trauma (primary and secondary survey , management) Damage control surgery (basic principle , triad of death, pathophysiology of trauma , specific management)				

Assessment is an important aspect of any training program which not only includes assessment of students but also of the training program itself. The performance of each student would be marked and counted towards final internal assessment. The following tools/ methods would be used for this purpose:

XV. Theory

1) **Periodical class tests**- Learning Management System (LMS) based.

2) **End of block/Rotation Exams**: At the end of each block/clinical rotation, a theory exam would be held concurrently for the entire class from the syllabus covered during this period.

b) Practical

1) **Logbook:** Each student would complete his logbook and get it countersigned from HOD at the end of each rotation. Logbook is maintained during the rotation.

2) **Workbook:** Each student would complete his Workbook and get it countersigned from HOD at the end of each rotation. Workbook is maintained during the rotation.

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3) **End Block Assessment:** At the end of each clinical rotation, the whole group would have a clinical exam.

4) **BLS/ACLS** workshop (only attendance is required to get marks).

c) **Continuous Internal assessment.** There will be 30% internal assessment.

d) **Professional exam**. Professional exam of Surgery will be held in Fourth Year. There will be 140 marks theory paper and 210 marks of practical. Student must pass theory and practical separately with minimum 60 % marks. However, in clinical subjects, student should pass in clinical exams (long Case, Short Cases, and OSCE). All three clinical assessment sections must be passed separately

XVI.Evaluation of the Course

a) Student portfolio should be maintained in the department in which students should give their feedback either by name or anonymously.

b) Faculty suggestions for improvement of training may be incorporated in the next rotation.

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XVII.Recommended Readings

1. Bailey & Love Short Practice of Surgery
2. Browse Introduction to the Symptoms & Signs of Surgical Disease
3. Apley's Concise System of orthopedics & Fractures

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Table of Specification (Themes/Topics/Learning outcomes/Educational Strategies/ Weightings)

Annex A

TOS for Theory Paper (60 Marks)

Component	Number	Marks Each	Total Marks	Weightage (%)	Cognitive Levels
MCQs	20	1	20	33.3%	C2, C3
SEQs	3	5	15	25%	C2, C3
SAQs	3	5	15	25%	C2, C3
EMQ	1	10	10	16.7%	C3
Total (Theory)	27		60	100%	

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MBBS Curriculum – Fourth Year Surgery (Orthopaedics)

Weightage by Topics for Theory (60 Marks)

Topics	Study Hours	MCQs (Marks)	SEQs (Marks)	SAQs (Marks)	EMQ (Marks)
Orthopaedic Emergencies / Trauma	08	6 (6)	1 (5)	1 (5)	1 (10)
Fractures & Dislocations	08	6 (6)	1 (5)	1 (5)	-
Bone Infections / Osteomyelitis	08	4 (4)	1 (5)	-	-
Bone Tumors	08	4 (4)	-	1 (5)	-
Total	32 Hours	20 (20)	3 (15)	3 (15)	1 (10)

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XVII. **Orthopaedics**

01	**Fractures and Dislocations**	• Identify the types of fractures and dislocations in different anatomical regions. • Take history of a patient with a fracture or dislocation. • Perform clinical examination for suspected fractures or dislocations. • Discuss radiological tools for diagnosis of fractures. • Give a differential diagnosis for limb deformity or acute pain. • Manage both open and closed fractures conservatively and operatively.	• Perform clinical examination of a patient presenting with fracture and dislocation.	**LGIS/ CBL / SDL**	MCQ / SEQ / SAQ / OSPE / Long case / Short case

02	**Musculoskeletal Infections and Orthopaedic Emergencies**	• Differentiate between septic arthritis, osteomyelitis, and soft tissue infections. • Identify orthopaedic emergencies including compartment syndrome and neurovascular compromise. • Generate prioritized differential diagnoses based on clinical presentation. • Take detailed history and perform examination in suspected orthopaedic emergencies. • Plan appropriate investigations to confirm diagnosis. • Devise immediate and definitive management plan.	• Take History of a patient with musculoskeletal infections and orthopaedic emergencies • Perform clinical and examination of a patient with musculoskeletal infections and orthopaedic emergencies • Take history of a patient and perform clinical examination of a patient musculoskeletal infections and orthopaedic emergencies	LGIS/CBL/ Demo/SDL	MCQ/SEQ/SAQ/ OSPE/Long case/ short case

03	**Bone Tumours**	• Review epidemiology and types of bone tumours including osteosarcoma and Ewing's sarcoma. • List risk factors and common clinical features. • Discuss diagnostic workup, including imaging and biopsy. • Plan preoperative workup and multidisciplinary management. • Discuss staging, treatment options and prognosis. • Take history and perform examination of a patient with suspected bone tumour. • Counsel the patient and attendants regarding diagnosis, treatment plan, and outcomes	• Take history of a patient with bone cancer • Perform clinical examination of a patient with bone cancer • Counsel the patient about the completion of treatment and prognosis of disease	LGIS/ CBL/SDL	MCQ/SEQ/SAQ/ OSPE/Long case/ short case

TOS for OSCE (40 Marks)

Total Stations: 8, Each having 5 marks.

Observed Stations: 5

AV OSCE Stations: 3

2 stations for history taking and 3 for clinical examination.

Summary of Assessment

Component	Marks	Weightage (%)
Theory Paper	60	60%
OSCE	40	40%
Total	100	100%

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Procedural Skills – Learning Outcomes

Following need to be focused:

- Explaining the need for a procedure
- Explaining the details of a procedure to the patient or his/her attendant
- Planning necessary pre-procedure work-up
- Preparing the patient for the procedure
- Assisting the procedure
- Performing the procedure independently
- Managing the complications or post-procedure problems

Surgical graduates should be able to perform and/or provide:

- Basic Life-support
- Primary trauma care
- Inject I/V, I/M, S/C, intradermal injections
- Insert and maintain I/V lines
- Administer blood transfusion (know indications, contraindications, complications)
- Maintain airway, breathing, and circulation i.e. ABCDE
- Oxygen therapy: indications, complications, modes

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- Nebulization
- Immobilization techniques (e.g., backslab/splint application)
- Joint aspiration
- Application of skin traction / Buck’s traction
- Plaster cast application (POP slab)

Procedures to be observed/assisted: Preferably on simulators first and then on patients, videos can be an alternative

S.no	Procedures	Observed	Assisted	Done under supervision	Number of Procedures
1	Plaster of Paris (POP) application	1	1	1	3
2	Application of skin traction	1	1	1	3
3	Joint aspiration	1	1	1	3
4	Reduction of	1	1	0	2

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	dislocation on model/simulator				
5	Back slab application	1	1	1	3

XVIIII.Graduation Competencies/Program Learning Outcomes

The competency framework document was developed with a process of students, faculty and staff, drawing form the 2015 Can MEDS framework used in all Canadian medical education

1.0 Medical Expert

Medical Expert, the central physician competency integrating with all other competencies, represents the cornerstone of physician identity, defines scope of practice and encompasses the knowledge, skills, values and attitudes for a clinical decision maker providing high quality and safe patient-centered care. Medical Expert involves integration of the foundational sciences and other knowledge into patient and family centered care.

1. Practice medicine within the scope of generalism as an undifferentiated generalist physician.

1.1 Demonstrate commitment to quality patient care.

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1.2 Apply knowledge from the clinical, biomedical and social/behavioral sciences in acute and chronic health challenges across the age spectrum.

1.3 Provide all care in the context of each patient's determinants of health.

1.4 Perform safe, sensitive and timely clinical assessments with recommendations presented in an organized manner.

1.5 Deliver clinical responsibilities in the face of competing demands.

1.6 Recognize and respond appropriately to the complexity, uncertainty, and change in medicine.

1.7 Demonstrate an understanding of longitudinal care to patients and families in the management of their health challenges.

2. Perform a patient and family-centered clinical assessment, formulate a diagnosis, create and implement a management plan.

2.1 Identify and prioritize issues to be addressed in each encounter.

2.2 Elicit a relevant, concise history and perform a complete or focused accurate physical and/or mental health examination as appropriate to the patient context and clinical presentation.

2.3 Deliver a prioritized relevant differential diagnosis for each patient clinical presentation.

2.4 Select and interpret appropriate cost-effective interventions for the management, prevention and health promotion in patient care.

2.5 Establish goals of care in collaboration with other health professionals, patients and their families to optimize outcomes.

2.6 Develop an effective and appropriate patient-centered management plan.

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2.7 Participate effectively in patient and family-centered care, valuing each patient's and family's unique needs.

3. Plan and perform procedures and therapies for the purpose of patient management.

3.1 Determine appropriate procedures or therapies for a patient's care.

3.2 Participate in obtaining and documenting informed consent (including risks, benefits and rationale) for a proposed procedure or therapy.

3.3 Discuss and participate in prioritizing a procedure or therapy, considering clinical urgency and available resources.

3.4 Perform a designated procedure in a skillful and safe manner at the level of an undifferentiated physician, adapting to findings and changing clinical circumstances.

3.5 Demonstrate effective documentation of a procedure or therapy recommended or delivered to a patient.

4. Formulate and implement plans for ongoing patient care and when appropriate seek timely consultation.

4.1 Formulate and assist in implementing a comprehensive patient-centered care plan.

4.2 Perform timely follow-up on all inquiries, investigations, outcomes and suggest consultation or intervention where appropriate.

5. Actively contribute as a member of a team providing care, to the continuous improvement of health care quality and patient safety.

5.1 Recognize and respond to patient safety incidents arising in health care.

5.2 Understand the principles of and contribute to patient safety and quality improvement through human and system factors.

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5.3 Participate in a disclosure of adverse events to patients, families, caregivers with other health professionals.

2.0 Communicator

Communicators form relationships with patients, families, communities, colleagues and members of interprofessional teams to facilitate gathering and sharing essential knowledge and create plans for effective care. Communicator involves all verbal and non-verbal actions in encounters. As Communicators, learners invoke a professional approach to all discussions using verbal and non-verbal skills, written text, and illustrations to convey information, including social and electronic media.

1. Develop and recognize the essential skills of a communicator.

1.1 Engage in patient-centred care that supports autonomy in decision-making and establishes trust while demonstrating empathy, respect and compassion.

1.2 Demonstrate effective verbal and non-verbal communication in all contexts of care.

1.3 Demonstrate effective communication to optimize care outcomes and minimize errors.

1.4 Effectively communicate respecting the diversity and background of patients, families, communities and colleagues.

1.5 Ensure an appropriate physical location for all discussions while understanding the context and supporting patient safety, comfort, dignity, privacy and diversity.

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1.6 Deliver information to the patient and family in a humane manner that is clearly understood, encourages discussion and supports full participation in decision-making.

1.7 Demonstrate skills and methods in the disclosure of adverse outcomes in a timely and complete manner.

2. Develop a common understanding on issues, problems and plans with patients, families, colleagues and other professionals to develop a shared plan of care.

2.1 Develop rapport, trust and ethical relationships with patients, families, communities, colleagues and healthcare providers.

2.2 Enable patient-centered active communication in exploring patient symptoms and experience.

2.3 Understand the patient and family's beliefs, values, gender, culture, knowledge, preferences and perspective on care.

2.4 Integrate social, economic, medical, family, life stage, demographic, work/school, and other relevant history factors in the clinical encounter.

2.5 Participate in shared decision-making through common ground for diverse patient and community values including, but not limited to gender, religion and cultural beliefs to address patient health goals.

2.6 Participate in obtaining informed patient consent.

2.7 Demonstrate an approach to managing physical, verbal and emotionally challenging scenarios.

3. Develop practices for documenting and sharing written and electronic information on the encounter to optimize clinical decision-making, patient safety, confidentiality and privacy.

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3.1 Document clear, accurate and appropriate written and/or electronic records.

3.2 Effectively report clinical encounters and treatment plans to patients, families, and health professionals.

3.3 Demonstrate effective reporting of encounters and treatment during transitions of care.

3.4 Demonstrate professionalism in all communication.

3.5 Demonstrate privacy, data security and confidentiality in written, verbal, social media and electronic communication.

(top)

3.0 Collaborator

Collaborators work cohesively with health-care professionals, community partners, system leaders and stakeholders, colleagues, patients and families to develop, provide, promote, evaluate and improve on quality and efficient patient care. Collaborator is grounded in the team skills of mutual trust, respect, and sharing knowledge in decision-making while respecting diversity across the continuum of care. Through collaboration, physicians participate in effective shared decisions of medical care, education, administration, and scholarship. Collaboration extends as a life skill into the professional's professional, personal and community life.

1. Work effectively and appropriately within an interprofessional health care team.

1.1 Demonstrate an understanding of the integrated responsibilities and skillsets of health care team members.

1.2 Demonstrate the ability to identify, develop, research and communicate new knowledge in care with the health care team.

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1.3 Work effectively and respectfully with patients, families and health professionals to provide patient and family-centered care.

1.4 Participate in shared decision-making with patients, families, and other health professionals.

1.5 Demonstrate the verbal and written skills necessary to safely handover care to health care team members in all clinical contexts.

2. Contribute to a positive professional work and care environment.

2.1 Demonstrate respect for patients, families and all health professionals.

2.2 Demonstrate how to navigate interpersonal differences, misunderstandings, and limitations of dialogue to foster a positive collaborative professional culture.

(top)

4.0 Leader

As leaders, physicians engage with members of the health care team and other system partners in the creation, delivery, review and continuous improvement of patient care and system function. Leaders demonstrate actions through collaboration, communication, engagement, empowerment and continual improvement while balancing personal, clinical, scholarly and educational roles. Leaders frame all decisions in local, national and global contexts.

1. Contribute to the improvement of health care delivery in teams, organizations and systems.

1.1 Apply the science of quality improvement to improving patient safety and systems of care.

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1.2 Analyze and address patient safety incidents to enhance care.

1.3 Utilize health informatics to improve the quality of care and optimize patient safety.

1.4 Demonstrate an understanding of the governance and financial operations of the Canadian healthcare system.

2. Demonstrate the ability to utilize resources for cost-effective health care.

2.1 Understand how care is impacted by healthcare resources.

2.2 Apply evidence-based processes to deliver cost-appropriate care across all patient care contexts.

2.3 Describe how public health and health policy shape the delivery of our healthcare system.

3. Demonstrate key elements of leadership in your role as an individual, professional, team contributor and a member of the community.

3.1 Apply the principles of change management to enhance healthcare outcomes.

3.2 Set priorities and manage time in professional responsibilities and personal life.

3.3 Implement processes to ensure personal and professional continuous improvement.

3.4 Participate in teams with other health professionals in respectful and effective decisionmaking.

3.5 Demonstrate an approach to managing professional and personal finances.

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5.0 Health Advocate

Health advocacy is integral to advancing the health and well-being of patients and families, communities and populations. Advocates deliver on their social accountability mandate for improving local, national and global health care. Advocates focus attention on and communicate for and support effective change on behalf of, or with: patients and families, health care partners and system leaders and stakeholders.

1. Identify and respond in a socially accountable manner to the health care needs of patients and families by advocating for and with them in promoting healthy behavior and disease prevention.

1.1 Utilize determinants of health including environmental, social, behavioral and health system perspectives when improving access to care.

1.2 Work with patients and families to adopt healthy behaviours.

1.3 Demonstrate skills that advance health promotion and surveillance to positively influence the health of patients and their families.

2. Identify and respond in a socially accountable way to the health care needs of communities or populations served by advocating for system-level change that promotes healthy outcomes and disease prevention.

2.1 Engage with communities and/or populations to identify and address determinants of health including environmental, social, behavioral and system policies that impact their health.

2.2 Advance patient care by health promotion, disease prevention and health surveillance in the communities served.

2.3 Apply health knowledge to a quality improvement process that positively improves the health of the communities and populations served.

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(top)

6.0 Scholar

Scholars demonstrate a lifelong commitment to excellence through lifelong learning, teaching and modelling, evaluating evidence in decision making, and contributing to expanding the science of medicine. In acting as a Scholar, students commit to the application, dissemination, translation, and creation of knowledge and practices applicable to advancing health care.

Learners acquire scholarly abilities by continually evaluating the processes and outcomes of their daily work and actively seeking feedback in the interest of quality improvement and patient safety. Scholars formulate questions to address knowledge gaps and arrive at decisions informed by evidence. Scholars identify pertinent evidence, evaluate it using criteria, and apply it in practice and scholarly activities while including patient values and preferences.

1. Engage in life-long learning.

1.1 Identify personal learning needs and create a plan of action.

1.2 Identify opportunities for learning and improvement by regularly assessing performance using internal and external data.

1.3 Engage in collaborative learning with colleagues and other health professionals.

1.4 Review outcomes using quality improvement processes to identify items for analysis.

2. Participate actively in the education of self and others.

2.1 Recognize and address role modelling and impact of the informal or hidden curriculum.

2.2 Promote a safe learning environment for all.

2.3 Plan and deliver personal, other professional and community lifelong learning activities.

2.4 Provide meaningful feedback for improvement to peers, mentors and programs.

2.5 Evaluate peers, teachers, and education programs using relevant tools and practices.

3. Integrate best available evidence into learning and decision-making.

3.1 Recognize personal and system knowledge gaps in patient care.

3.2 Generate focused questions that address gaps.

3.3 Critically evaluate the integrity, reliability and applicability of research literature.

3.4 Integrate evidence into clinical decision-making.

3.5 Formulate well-structured questions and consult scholarly resources in confronting a patient care problem.

3.6 Discuss selecting the most appropriate action in the absence of evidence.

3.7 Interpret qualitative and quantitative knowledge using standardized practices that address bias, validity, barriers, and relevance to care.

3.8 Apply new knowledge and evaluate the impact on patient care.

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4. Contribute to the creation and dissemination of knowledge applicable to health care.

4.1 Demonstrate an understanding of the scientific principles of research and the role of evidence and research in health care.

4.2 Identify ethical principles for research and incorporate them into obtaining informed consent, while considering potential harms, benefits and needs of vulnerable populations.

4.3 Pose questions for inquiry, select methods to address them and share results.

4.4 Communicate findings of relevant research and scholarly research to peers, other health professionals, communities, patients and families.

4.5 Generate original scholarly work for dissemination to broad or specific communities.

(top)

7.0 Professional

As health professionals, students work to develop a professional identity acknowledging a commitment to the health and well-being of patients, families, society and their colleagues. Embracing ethical patient care, high personal standards, accountability to the profession, society and the educational program while maintaining personal health, students evolve as professionals. Professionals commit to competence through ongoing professional development, promotion of the public good, meeting the values of integrity, honesty, altruism, and humility, respecting diversity, and full transparency in any or all potential conflicts of interest.

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1. Demonstrate a commitment to the needs of patients and families by applying integrity, honesty, altruism, respect, and best practices while adhering to high ethical standards.

1.1 Demonstrate appropriate professional behaviours and relationships in all patient care while respecting diversity, and maintaining confidentiality.

1.2 Demonstrate a commitment to excellence in all aspects of patient and family centred care

1.3 Recognize and develop an approach to ethical dilemmas as they present.

1.4 Recognize and manage all conflicts of interest.

1.5 Demonstrate professional behaviours in the use of technology-enabled communication.

1.6 Respect autonomy of individual patients regardless of age, sex, gender, ethnic origin or religious beliefs consistent with the Canadian Charter of Rights and Freedoms.

2. Demonstrate a commitment to society by applying integrity, honesty, altruism, and respect in recognizing and responding to community expectations in health care.

2.1 Demonstrate accountability to patients and families, society, the community you serve and our profession in responding to expectations.

2.2 Demonstrate commitment to patient safety and quality improvement.

3. Demonstrate a commitment to the profession by applying integrity, honesty, altruism, and respect in adhering to accepted standards.

3.1 Understand and adhere to the professional and ethical codes, expectations and requirements of our school, program and profession.

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3.2 Recognize and respond to address any and all unprofessional and unethical behaviours in colleagues, teachers, mentors, patients and families, communities and other professionals.

3.3 Contribute regularly to meaningful peer assessment.

4. Demonstrate a commitment to personal health and well-being.

4.1 Exhibit self-awareness and address all influences on personal well-being and professional performance.

4.2 Promote a culture that recognizes, supports, and responds effectively to colleagues in need.

4.3 Develop and maintain sustainable personal health, work and learning habits.

4.4 Demonstrate skill in reflective practice and individual improvement to seek excellence in performance.

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XVIII. Entrustable Professional Activities

EPA LEVELS:

1	Not allowed to practice independently, observe only.
2	Direct active full supervision by senior clinician with prompting/verbal and actual guidance and help throughout.
3	Indirect active partial supervision by senior clinician, no prompting or help provided, direct line of vision or supervisor is immediately available.
4	Passive full entrustment to carry out competence, no senior support provided.

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Entrustability with the 12 EPAs is essential for quality patient care while ensuring successful transitions for our graduates moving onto the next stage of learning.

The twelve **AFMC EPAs** for Fourth Year are:

No.	EPA	Level1	Level 2	Level 3	Level 4
1	Obtain a history and perform a physical examination adapted to the patient's clinical situation.				
2	Formulate and justify a prioritized differential diagnosis				
3	Formulate an initial plan of investigation based on the diagnostic hypotheses				
4	Interpret and communicate results of common diagnostic and screening tests				
5	Formulate, communicate and implement management plans				

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6	Present oral and written reports that document a clinical encounter				
7	Provide and receive the handover in transitions of care				
8	Recognize a patient requiring urgent or emergent care, provide initial management and seek help				
9	Communicate in difficult situations				
10	Participate in health quality improvement initiatives				
11	Perform general procedures of a physician				
12	Educate patients on disease management, health promotion and preventive medicine				

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XIX. Quality Assurance Cell:

a. Paper is assessed at various levels by Deans, VC, Principal, Directorate of assessment and examination cel.
b. The onsite paper assessment is done.
c. Post exam analysis is mandatory, and difficulty index is calculated**.**

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