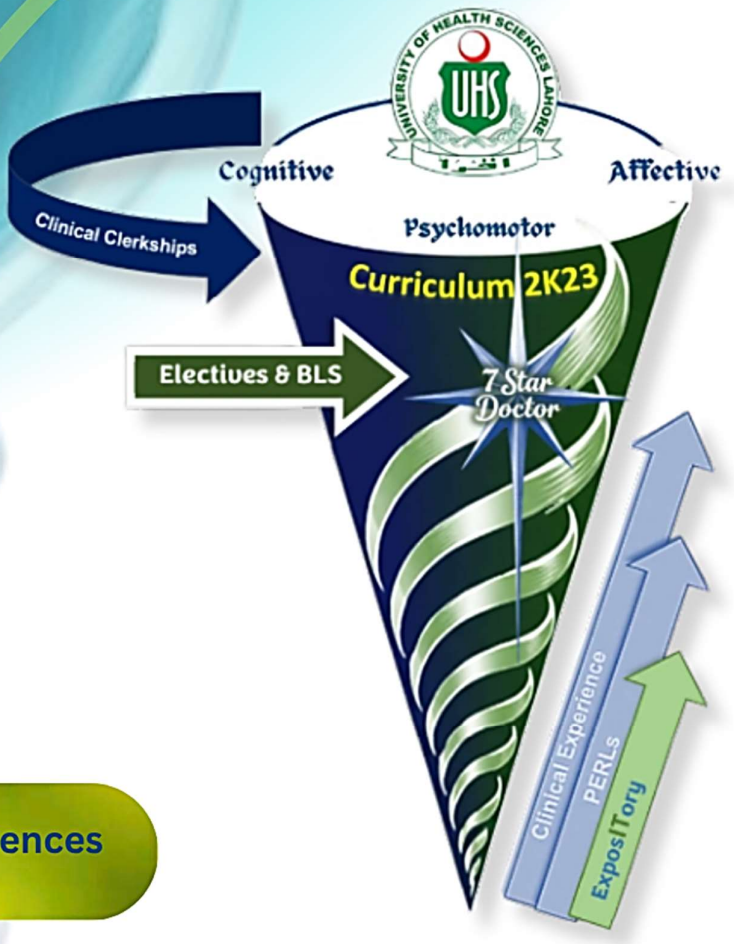
MBBS
Preclinical / Clinical

INTRODUCTION

Modular Integrated Curriculum 2K23

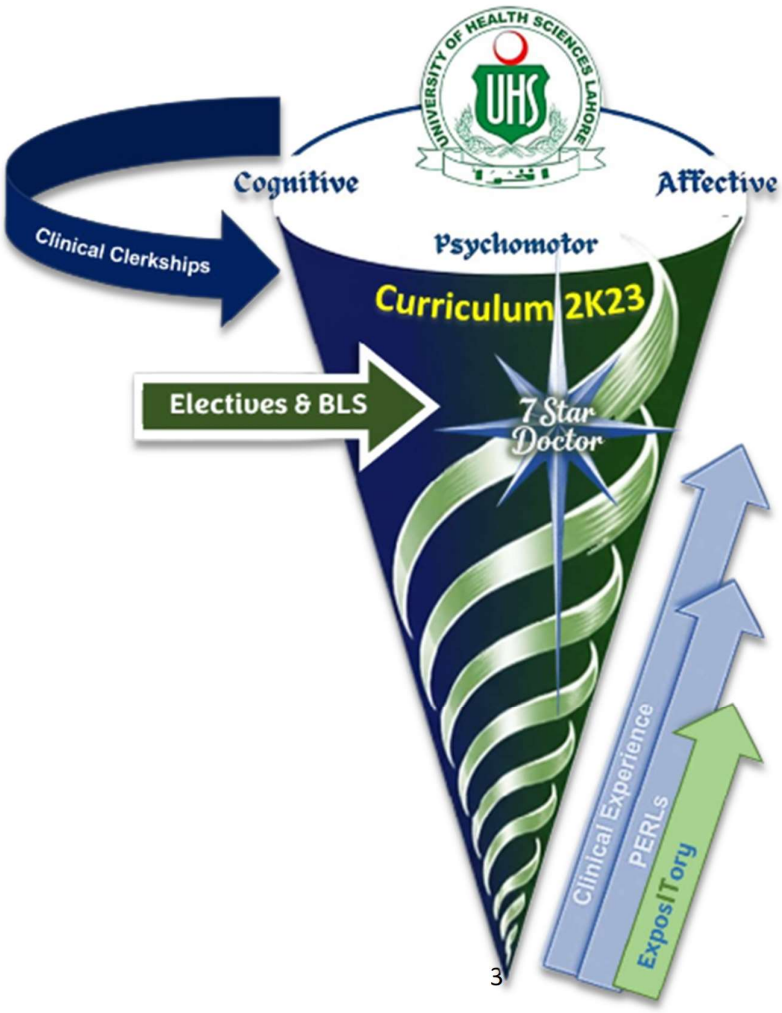
Final Version

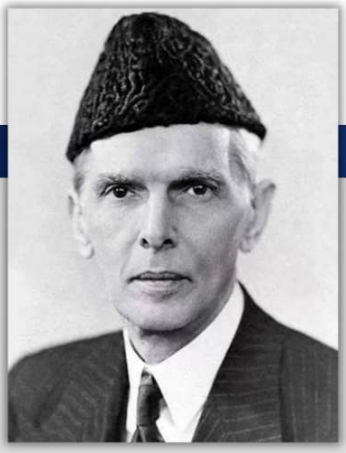


University of Health Sciences Lahore

Modular Integrated Curriculum 2K23

Final Version





Without education it is complete darkness and with education it is light. Education is a matter of life and death to our nation. The world is moving so fast that if you do not educate yourselves, you will be not only completely left behind, but will be finished up.

Quaid e Azam Muhammad Ali Jinnah
Islamia College Lahore 1945

University of Health Sciences Lahore

MEMENTO OF APPROVAL

This memento commemorates the formal approval and adoption of the following academic curricula – A historical transformation from traditional to modular syllabi:

MBBS Modular Integrated Curriculum 2K23
Final Version for Five-Year Programme

Integrated Modular Dental Curriculum
Second Revision Five-Year BDS Curriculum 2025–26

Approved by the Combined Meeting of the Boards of Studies (Medicine and Dentistry) and the Syndicate of the University of Health Sciences, Lahore, in accordance with the applicable statutes, regulations, and academic governance framework.

Issued under the auspices of the

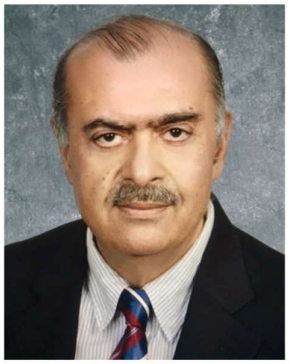
Khawaja Salman Rafique

Honourable Pro-Chancellor, University of Health Sciences
Minister for Specialized Healthcare and Medical Education, Government of the Punjab.

By order of

Professor Dr. Ahsan Waheed Rathore,
Vice Chancellor, University of Health Sciences Lahore /
Chairman Syndicate, UHS, Lahore

31 December 2025
Lahore, Pakistan



Vice Chancellor

UNIVERSITY OF HEALTH SCIENCES LAHORE
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MESSAGE

I am thankful to Allah that the vision of structuring a standardized, comprehensive and implementable curriculum, has been fulfilled by the inception of Curriculum 2K23. The new curriculum has the potential to host futuristic educational strategies & methodologies.

University of Health Sciences Lahore commits to global trends and best practices of medical education and Curriculum 2k23 is a historical milestone to this claim. We have categorically made sure that the curriculum should embrace all the elements of cognition, skill acquisition, professionalism, ethics, research, and leadership. Such a comprehensive undertaking necessitated an approach which was 'integrated' and had strong 'clinical relevance' in the early years. We have made sure that the curriculum is designed in a way to address the needs and diversity of all our affiliated medical institutes for implementation. This diverse institutional conformity to the curriculum is the main strength, which will enable even our learners of the peripherally placed medical institutes, to benefit from the learning opportunities. Another strength of Curriculum 2K23 is its broad-based foundation which was laid down by the subject experts, medical educationists and healthcare leaders, representing our affiliate institutes. The collaborative effort and centripetal contributions by the team of dedicated professionals made Curriculum 2K23 possible and it will be implemented in true letter and spirit. I pay these leaders my gratitude for their untiring and selfless contributions towards completion of this curriculum in time.

We are confident that with this modular integrated curriculum, our affiliate institutes will be able to generate a yield of doctors who are equipped with competencies to cope up with professional challenges locally and globally.

Prof Ahsan Waheed Rathore
Vice Chancellor
University of Health Sciences Lahore

University of Health Sciences Lahore, in accordance with its vision, continuously endeavors to offer standardized, structured, and quality education to all its registered students through its affiliated institutes. Keeping all affiliate standards well gauged and educational standards finely calibrated UHS ensures the development of a competent, ethical, and skillful professional. ensures all these parameters meticulously. Curriculum 2K23 has been drafted in accordance with the national and international standards of Basic Medical Education, thus having a futuristic stride and a local context. University of Health Sciences Lahore, being the custodian of the curriculum, will also manage, aid, govern, and dynamically refine the curriculum and its implementation.

We at the University of Health Sciences Lahore remain committed to the educational training, ethical grooming, and competency acquisition of all the registered learners who are the prime asset of UHS.

Prof. Dr. Nadia Naseem
Pro Vice Cahncellor
University of Health Sciences Lahore

I am thrilled at the launch of the final version of C2K23 Modular Integrated Curriculum 2K23 Final Version , marking a significant milestone in our pursuit of excellence in medical education. This achievement would not have been possible without the tireless efforts of our working groups, module coordinators, steering committee members, and department teams. I extend my sincerest gratitude to each and every one of for their dedication and hard work.

This curriculum is designed to empower our young doctors to explore new horizons, where the sky's is limit. We aim to nurture professionals who will not only serve our local community but also make a positive impact globally. By striving for higher education and embracing cutting-edge technology, including AI-supported health facilities, we are committed to meeting the future needs of our students and the healthcare industry.

We are dedicated to regularly reviewing and updating UHS curricular document to ensure that it remains relevant, effective, and aligned with the latest developments in medical education. I am proud to execute the vision of the Vice Chancellor, and I would like to thank his office for unwavering support throughout this journey.

Together, let us embark on this exciting new chapter in our pursuit of excellence in medical education.

Prof. Dr. Sumera Ehsan
HOD Medical Education
University of Health Sciences Lahore

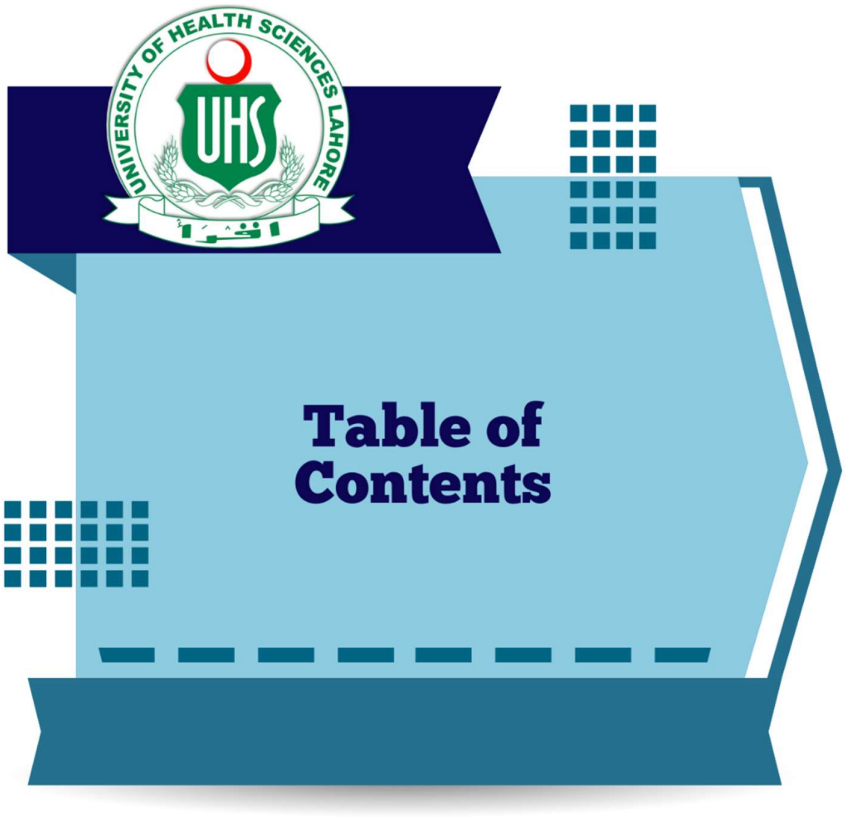
University of Health Sciences
Lahore

Vision Statement

UHS is a leading University aiming to keep its graduates apt with the ever emerging global health challenges evolving educational methodologies and emerging technological advancements to maintain its distinguishable position as a Medical University.

Mission Statement

UHS shall continue to strive for producing a human resource par at excellence to cater for the health needs of the people of Punjab and Pakistan.


UNIVERSITY OF HEALTH SCIENCES LAHORE
UHS
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UHS
Conferrers &
Developing Team

MODULAR INTEGRATED CURRICULUM 2K23

CONTRIBUTORS

Clinical Years

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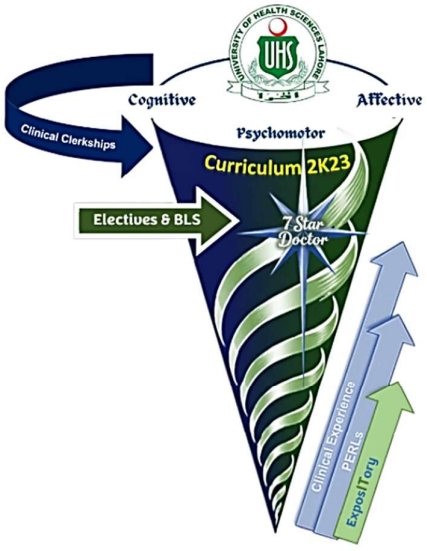

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6	*Secretary, Government of the Punjab, Finance Department, Civil Secretariat, Lahore*
7	*Prof. Ahsan Waheed Rathore* *Vice Chancellor, University of Health Sciences, Lahore*
8	*Ms. Kiran Fatima* *Registrar, University of Health Sciences, Lahore*

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MODULAR INTEGRATED CURRICULUM 2K23

Final Version

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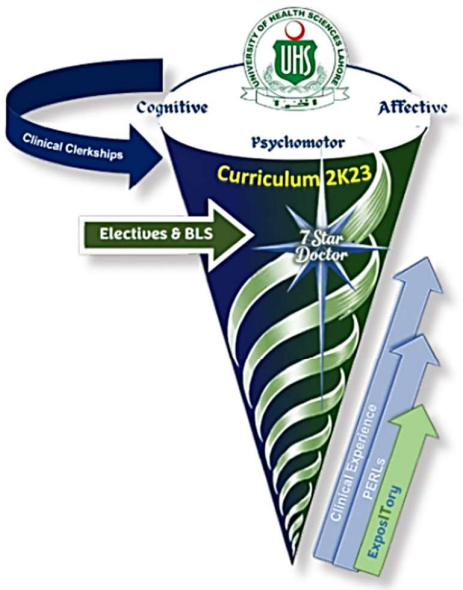

MODULAR INTEGRATED CURRICULUM 2K23
Final Version

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07	Renal – I	**Dr. Abeer Anjum**
08	Endocrinology and Reproduction-I	**Prof. Irum Manzoor** **Prof. Alia Bashir**
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38	*PERLs II - IV*	***Dr. Noor-I-Kiran Naeem***
39	*Student Portfolio I, II, III & IV*	***Dr. Noor-I-Kiran Naeem***
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41	*CFR-C I- III*	***Dr. Komal Atta*** ***Lt. Col (R) Dr. Khalid Rahim Khan TI (M)***
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19 ***Dr. Sadaf Sajid***

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4 ***Prof. Sarwat Saqib***

5 ***Prof. Ajmal Farooq***

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3 ***Prof Ambreen Farrukh***

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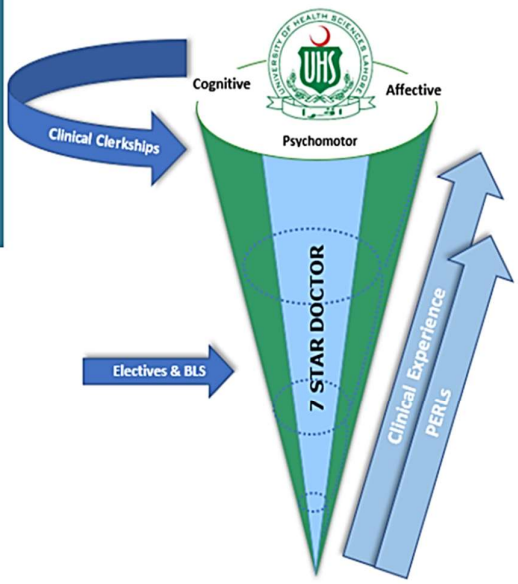


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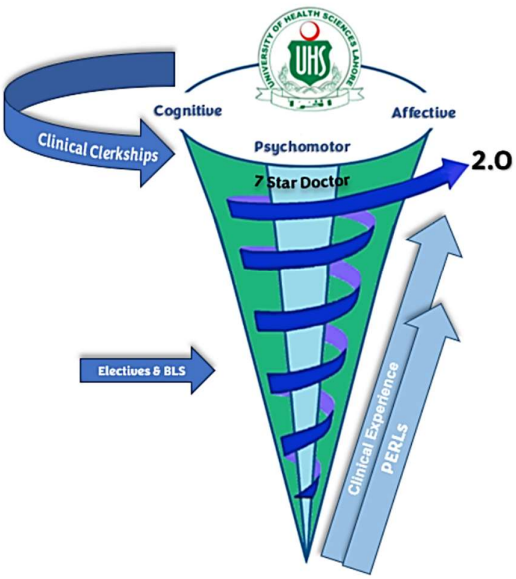


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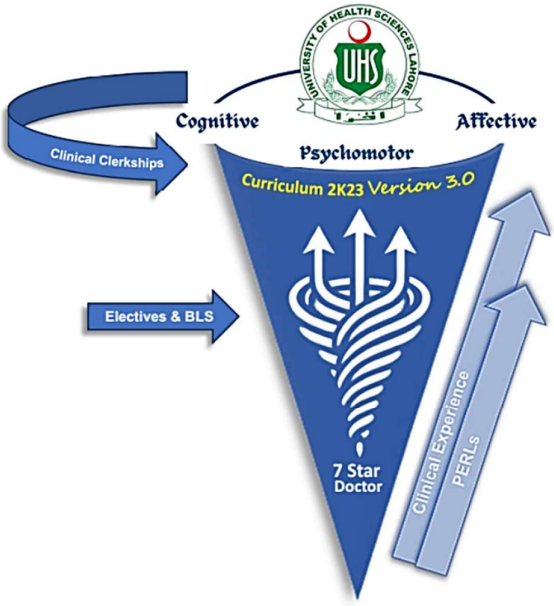


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02
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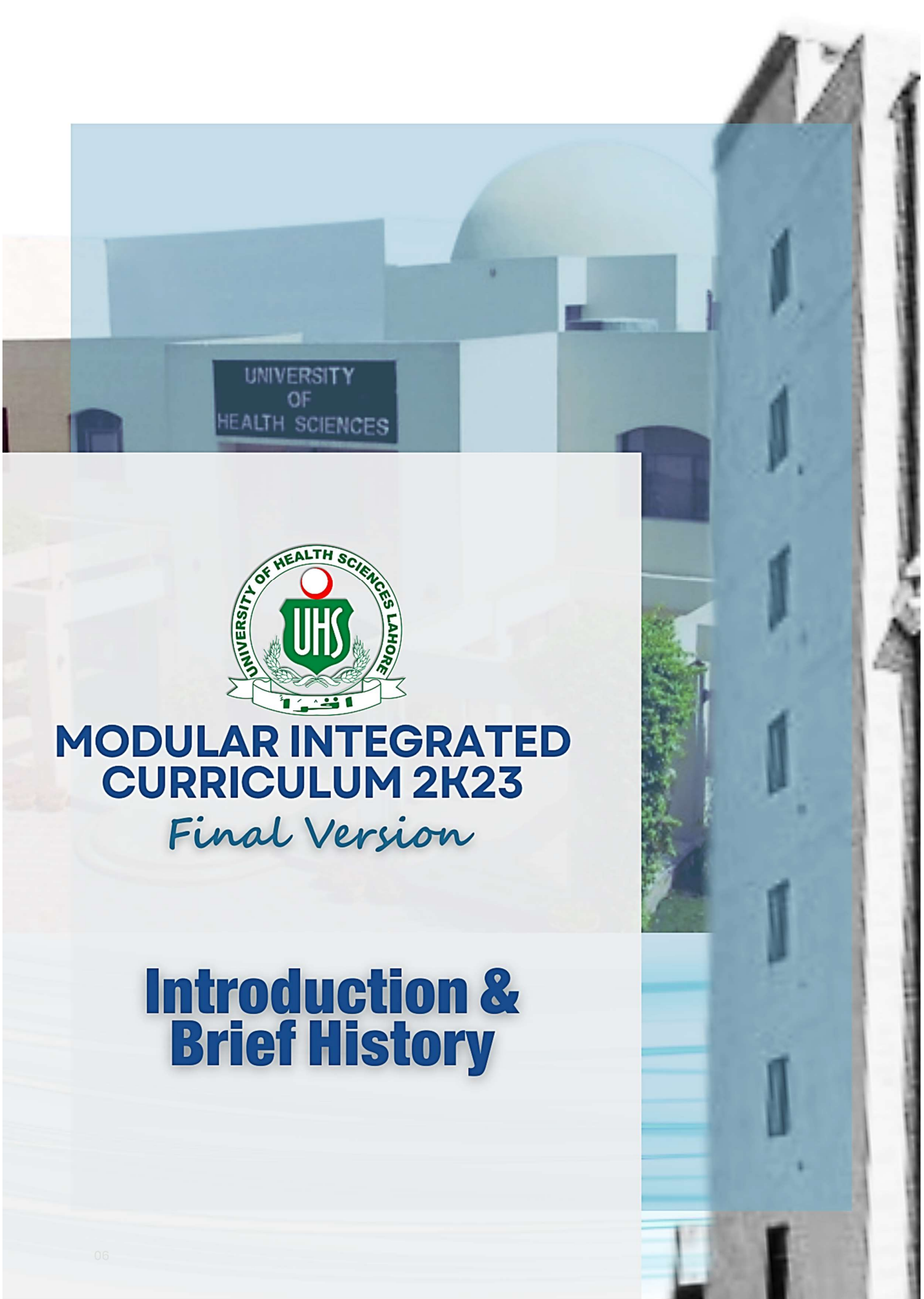


MODULAR INTEGRATED CURRICULUM 2K23

Final Version

Introduction & Brief History

Foreword to Modular Integrated Curriculum 2K23

Final Version

The University of Health Sciences (UHS), Lahore, has remained steadfast in its mission to transform medical and dental education through innovation, evidence-based practices, and alignment with international standards. Following the successful introduction of the **Modular Integrated Curriculum 2K23 –** ***Version 3.0***, which marked a major step toward integration and competency-based education in Punjab, Pakistan, the University now proudly presents ***Final Version*** of the curriculum. This updated version reflects an evolution—one grounded in systematic evaluation, stakeholders' input & feedback, and the continuous pursuit of educational excellence.

The **Modular Integrated Curriculum 2K23 –** ***Final Version*** builds upon the philosophy and foundations established in the previous versions while refining its structure, content, and flow for greater coherence and academic integrity. The guiding framework for curriculum design continues to be **Kern's Six-Step Approach to Curriculum Development in Figure 1**, ensuring a deliberate and scholarly process that begins with needs assessment and culminates in evaluation and revision.

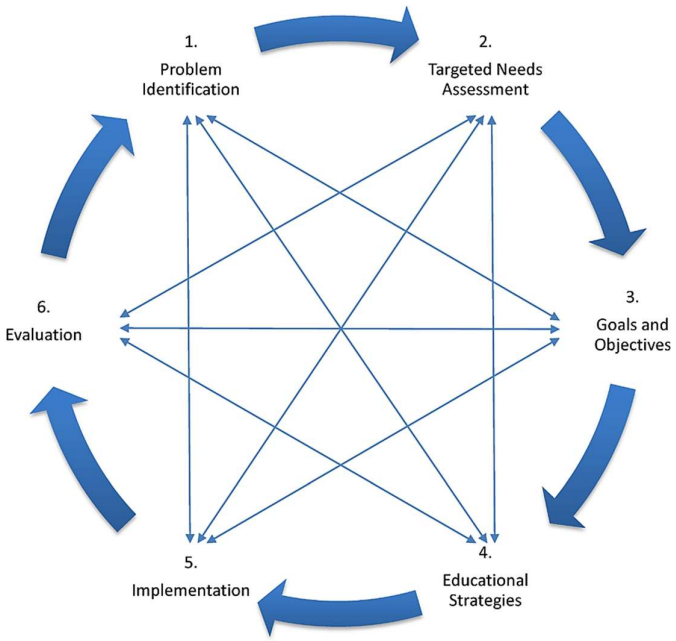
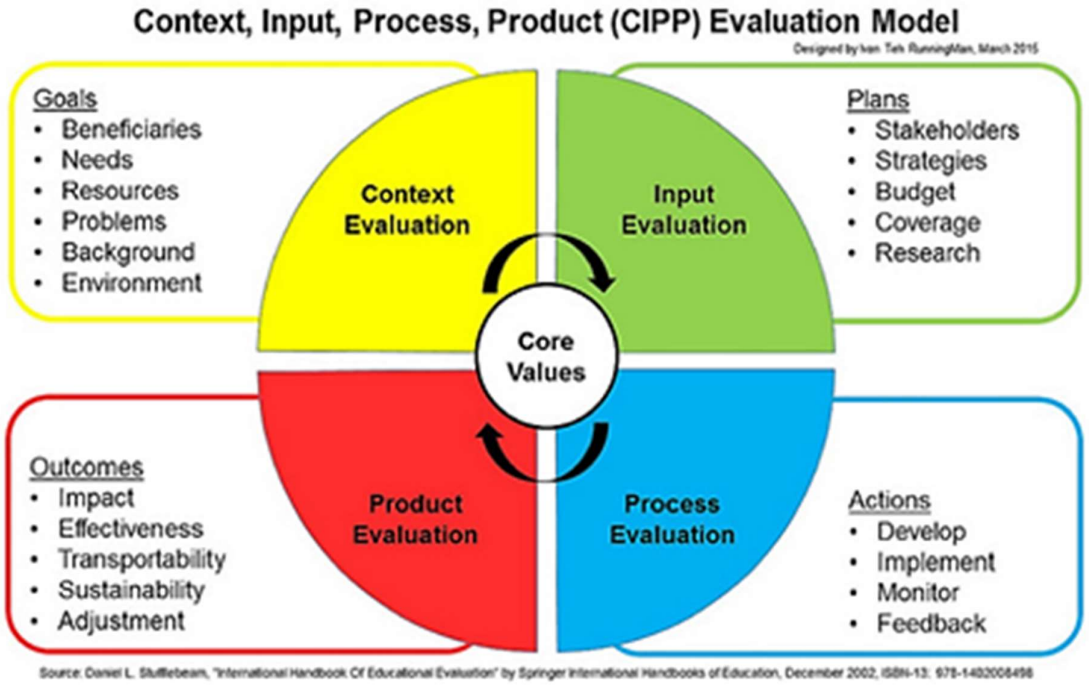


Figure. 1

Kern's Cycle of Medical Curriculum Development

The revision process has also been informed by the **CIPP (Context, Input, Process, Product) model** of curriculum evaluation, emphasizing ongoing monitoring and quality assurance.



The development of the **Modular Integrated Curriculum 2K23 – Final Version** has been a thoughtful and collaborative journey aimed at improving the first version based on extensive feedback and collective experience.

The process went through several stages to ensure that the revised curriculum truly meets the needs of both learners and educators:

1. The **Working Group** developed the first draft keeping in mind the subjects' importance and connecting the previous practice to the newly developing integrated model.
2. **Module In-charges** reviewed the first draft and aligned each module keeping in view the holistic approach of the curriculum.
3. **Subject Experts** reviewed the revised draft according to the revision guidelines provided by DME, UHS.
4. Third refined draft was presented to the invited **seasoned faculty from Basic & Clinical Sciences** of constituent/affiliated colleges at UHS to provide their input & feedback to align the learning outcomes/content within and across modules/blocks.

5. After all the above four-tiers, revisions and feedback, the **relevant faculty members** from constituent/affiliated colleges were invited to review and refine the final document with mutual consensus before the publication. Over 100 faculty representatives have contributed in this academic activity.

This five-tier process reflects the dedication, teamwork, and shared vision of all contributors. The Modular Integrated Curriculum 2K23 – *Final Version* now stands as a refined and well-integrated framework.

A special attention has been given to managing the content in a logical and progressive flow, ensuring a smoother transition from basic and clinical sciences. The curriculum maintains its dual approach of horizontal and vertical integration, and *Final Version* strengthens these linkages.

Among the notable enhancements introduced in *Final Version* are refinements in learning outcomes and module mapping to ensure alignment with **Bloom's taxonomy** and the desired graduate competencies. The spiral integration model has been strengthened to enable the continuous revisiting of essential concepts, deepening understanding and reinforcing learning through repetition and contextual application. Clinical exposure has been expanded in the pre-clinical years through structured mandatory workshops.

Moreover, **faculty development and capacity building** remain at the heart of *Final Version*.

The University continues to prioritize training programs, workshops, and mentorship initiatives through the **Department of Medical Education** to ensure that faculty members are fully equipped to implement and evaluate the integrated curriculum effectively.

In essence, the **Modular Integrated Curriculum 2K23 – *Final Version*** represents both continuity and advancement. It preserves the core vision of previous versions to produce knowledgeable, skillful, and ethical healthcare professionals, while refining the organization, integration, and delivery of content to meet emerging needs.

As per international best practices, the University places strong emphasis on the regular review and updating of newly developed curricula. Once a complete academic program curriculum is developed, it enters a structured annual revision cycle. These revisions ensure vertical and horizontal alignment across all academic years. After completion of the initial program document,

the curriculum will undergo annual review, refinement, and improvement over the subsequent five years.

“Quality improvement is a continuous process, not a one-time event.”

— Joseph M. Juran

Role of University of Health Sciences Lahore

University of Health Sciences Lahore is a public sector internationally ranked university with a QS ranking of #651-670. Since its inception in October 2002, it has come a long way in terms of training healthcare professionals, developing educational disciplines and contributing to the healthcare infrastructure of the province.

University of Health Sciences Lahore (UHS) is a vibrant, internationally recognized, student-centered, research university with 128 colleges and institutes affiliated and around 106,916 undergraduate and 9157 postgraduate students registered with it.

It was the first dedicated health sciences university established in the province with a vision to bring qualitative and quantitative revolution in medical education and research through evolution. Almost all the public and private medical and dental colleges of the Punjab province are affiliated with UHS. The University is focused on delivering high-quality instruction in Basic Medical Sciences, revitalizing the essential fields of Nursing and Allied Health Sciences, pioneering courses in Medical Education, Human Genetics, Behavioral Sciences, and fostering indigenous research activities through its state-of-the-art laboratories and the Research and Development center. It is one of the five main degree awarding institutes of the country and the Degrees awarded are recognized by the HEC & PMDC.

University of Health Sciences Lahore (UHS) bears the onus of the structured accredited training, and skill acquisition of the students for MBBS in the province. A constant upkeep in terms of the content identification, structured framework of training, enlisting tangible resources and inculcation of newer methodologies for faculty trainings is undertaken.

University of Health Sciences Lahore (UHS) being the degree awarding institute ensures that the learning outcomes are achieved by respective medical colleges before the students are assessed by exit exams. The clarity of assessment policy aligned with the program outcomes endorses the transparency of the assessment and structured training of the graduates.

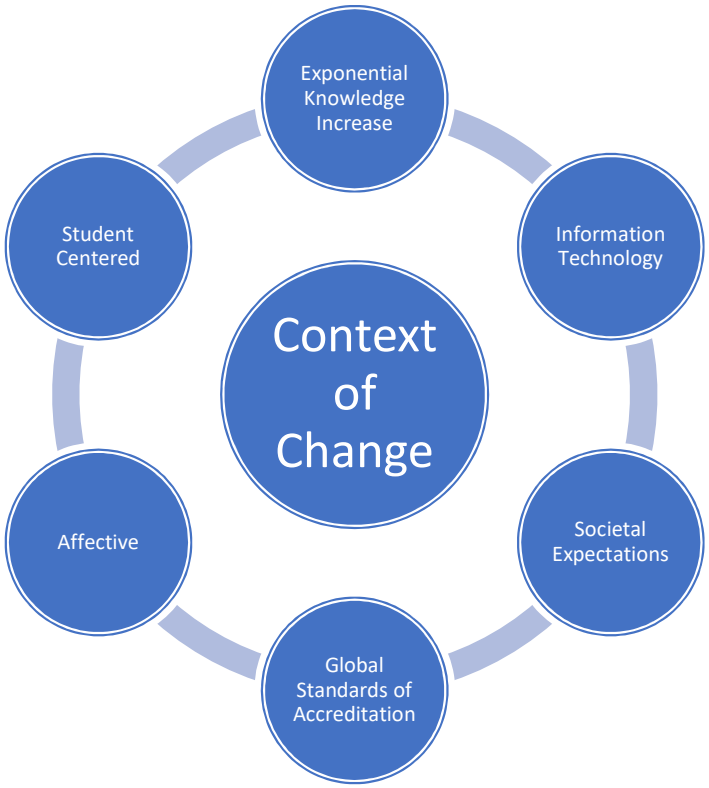
University of Health Sciences Lahore (UHS) endorses, patronizes, guides, and monitors all educational standards for the benefit of the principal stakeholder and the main beneficiary of the entire process which is the ‘student’.

Context Facets of Curriculum 2K23

University of Health Sciences Lahore believes in the globally accepted best practices for any formal undertaking of development. All the processes of syllabi identification, thematic structure, content validation and contextualization of curricula a structured process was designed by the Department of Medical Education UHS. The scaffolding principle of development remained the incorporation of the existing teaching and learning practices merged with the global recommendations for change.

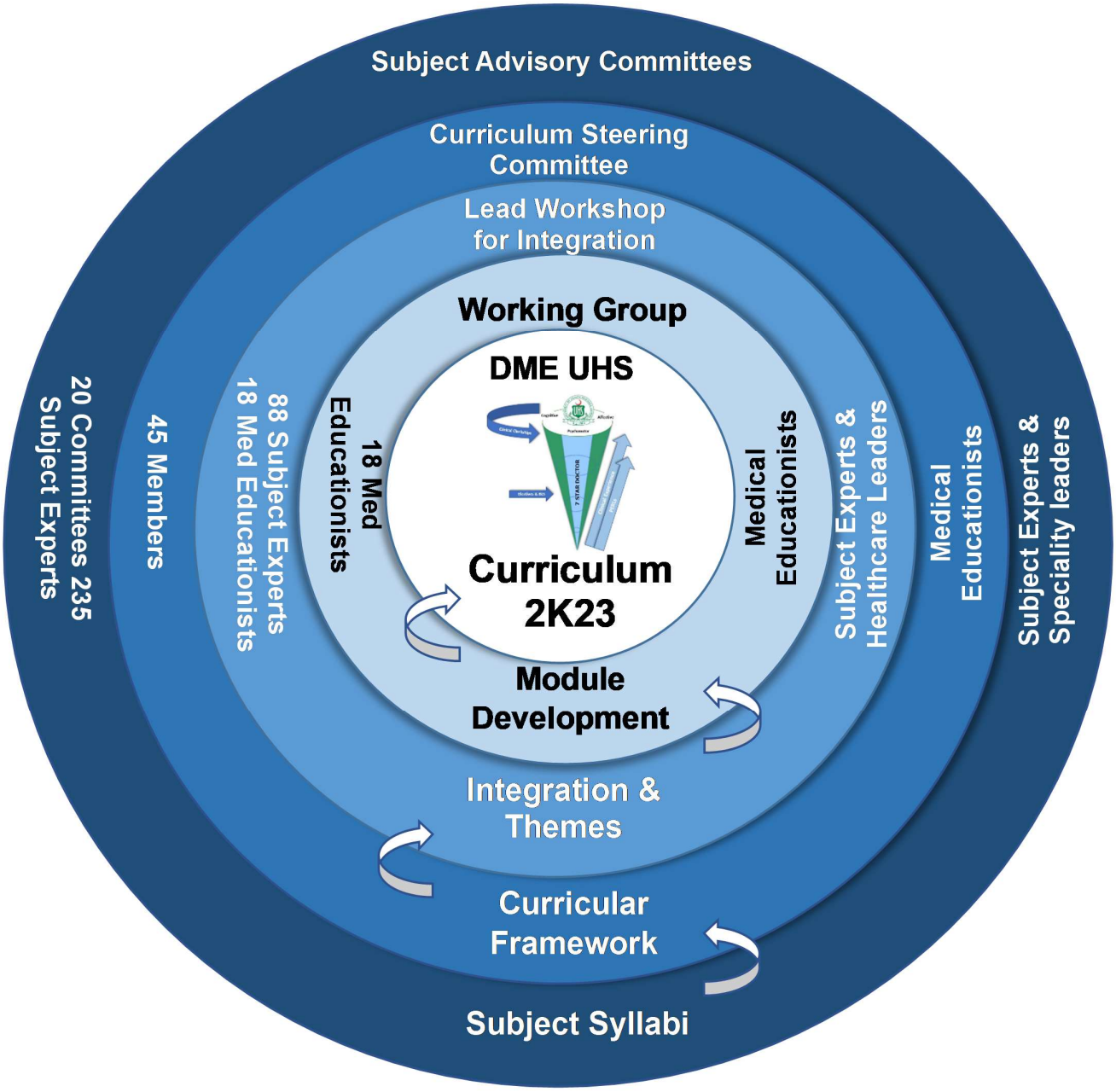
A few perspectives for the context of change were:

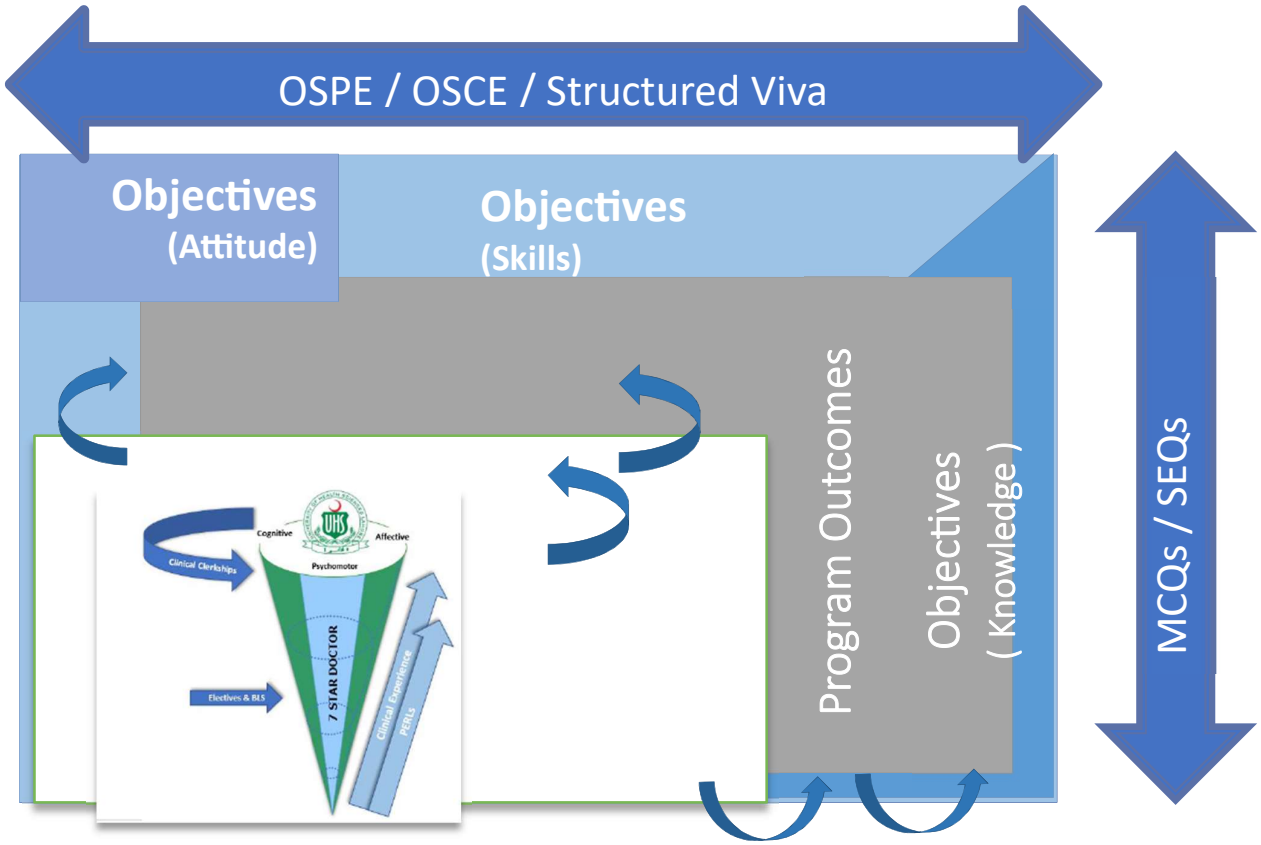
- Exponential increase in the course content has been identified over the past few years. This increased volume of knowledge base is due to educational advancements, technological enhancements, and scientific discoveries, which have made their way into the mainstream body of work. This increase in the required knowledge base requires prioritization, expunging of redundant concepts, and modern modes of information transfer.
- Societal expectations from the healthcare workers are always in an evolving mode. The patient satisfaction and health system responsiveness ideally should be equally poised. Paradigms like the societal needs, healthcare access, equity of resources and systems awareness are the undercurrents that steer the healthcare systems. These elements evolve and redefine constantly thus setting the pace and specifics for the social accountability for the healthcare workforce. These elements need to be formally addressed in the curriculum for the professional trainings, social grooming, and sense of accountability of the graduates.
- Post pandemic world has transformed to a newer level of educational and meetups paradigms. With the advent of hybrid learning, online monitoring, and blended courses the methodologies need to shelter the possibility, to blend methodologies for a hybrid framework if required. Such a framework was only possible with the advent of the technological advancements.
- As the curriculum was being revamped, evaluated, and drafted it was calibrated against in vogue globally accepted standards of Basic Medical Education. Conformity to the national regulatory authorities is a mandatory requirement. However, aligning with the international accrediting bodies gives a purposeful direction to the curriculum thus ensuring international acceptance and global employability.



- Previously the curriculum was always expanded for the knowledge base and skill acquisition. However now the societal expectations, social awareness, legal bindings, increasing accountability and community interactions required a categorical structured training of the 'affective' domain of the young learners. This perspective was also kept forth while designing a dedicated 'spiral' for the affective training. To ensure the training of this domain and to make it objective-driven the spiral of 'PERLs' will be subjected to assessment also.
- Finally, the most significant underpinning to the success of any curriculum, the 'student-centeredness' was grounded into the modus of delivery. Introduction of Problem based learning and the elements like 'Electives', Self-directed learning sessions and portfolio development, will place the control of learning with the students, per se.

Iterative Model of Curriculum Development by UHS
Preclinical years, Phase-1





Seven Star Competencies

A few salient features that have been incorporated in **Curriculum 2K23** for all the three domains of training, after deliberations and through an iterative process by subject experts, medical educationists and the University lead are as follows:

Horizontal Integration

Cognitive

The framework of **Curriculum 2K23** has 44 modules spanning 05 years. The horizontal integration is evident in the modular configuration where different basic disciplines approach the themes simultaneously. Modules have been structured where all the basic disciplines are represented based on their respective weightage of content. Assessment framework ensures that the applied/clinical aspect also is inculcated in the concept development of the learner keeping the clinical relevance and context at the core.

Clinical Relevance & Themes

All module objectives are preceded by the recommended themes and clinical relevance. These are grounded in the rationale of the module so that pattern of learning could be steered for a practical professional approach. However institutional discretion does not prohibit adopting any other thematic approach provided that the program outcomes are adequately achieved.

Vertical Integration

Spiral placement of the modules within the framework ensures a revisit of the basic sciences. In the first step the applied / clinical learning objectives orientate the learner and the repetitive module horizontally rhymes with the clinical rotations with a backdrop of basic sciences. The final year of clerkship is the final revisit, which is primarily workplace based and principally involves the perfect integrated blend of tri-domain learning.

C-FRC

Psychomotor

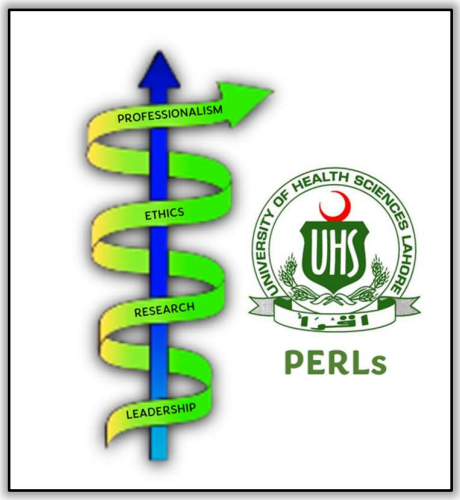
Clinical Skills follow a spiral which is entirely skills dominant. This spiral is the core of psychomotor training. The first two years will be of **Clinical Skills- Foundation** which will represent clinical orientation. The clinical orientation will be conducted in wards, skills lab and simulation centers (depending on the available resources). The clinical orientation along with the applied/clinical component of the knowledge base will channelize the learner for the practical and professional aspect of learning.

The subsequent two years the spiral will move on to **Clinical Skills – Rotations**. The rotations in different wards will be based on foundational developmental already commenced in yesteryears. The year 3 and year 4 which have the rotations will also have the second visit of the modules which would now be more clinically inclined with a stronger base of Pharmacology and Pathology. 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.

PERLs

Affective



Affective training has been formally inculcated in the curricular framework. The model of PERLs has been introduced so that the yield of doctors has a strong, resilient, ethically driven character. PERLs stands for Professionalism, Ethics, Research and Leadership skills. PERLs rounds up professional development for the effective application of the knowledge and skills base achieved. For a professional to be social accountable and to be able to play the healthcare leadership role for societal elements like advocacy, equity or resources and healthcare access, a formal training is a must. The categorical approach for this training has been achieved by rolling in the assessment of the competencies acquired along with development of portfolios. PERLs will run throughout the year via portfolio development. The portfolio development itself is a methodology which ensures student centered learning. The method of self-reflection which is integral for portfolio development places the learner in the right spot to steer his/her own learning needs.

The spiral of PERLs will be monitored directly by the respective department of Medical Education. However, the teaching sessions, and mentoring process, can and will be assigned to other disciplines. For example, communication skills can have an input from the faculty of Family Medicine and research can be facilitated by the Community Medicine & Public Health faculty. Ethics can be jointly covered by the Forensic department and Behavioral sciences. Leadership is an ambit where the students will be motivated if the institutional leads themselves get involved and can also have the input of the successful alumni. The Faculty of Medical Education will look after the entire process and will also engage in the teaching sessions, when and wherever required.

Type of evidence, activities to be performed, learning situation for the acquirement of the competencies, for the portfolio should be defined and enlisted by the academic council along with the help of the department of medical education. A 'mentoring platform' can flaunt the spirit of affective learning through the PERLs spiral. So, it is recommended that a mentorship program should be developed at the respective institutes.

Other Curricular Elements

The framework of **Curriculum 2K23** has certain other newer elements. These elements define our local context, our existing educational practices and conformity to evidence relating best international practices. Some will be commencing from the first year, however, rest will be a part of the following years. A few of these are:

- Quran
- Clinical Entrepreneurship
- Family Medicine
- Minimal Service Delivery Standards
- Electives
- Basic Life support

The purpose of developing a medical curriculum is to produce competent, empathetic, and efficient healthcare practitioners who can provide quality care to the sick. To achieve this goal, a modular integrated curriculum has been created that aligns the MBBS program outcomes with the seven-star doctor competencies defined nationally.

STANDARDS FOR A SEVEN STAR DOCTOR

The expected generic competencies in a medical graduate are as follows:

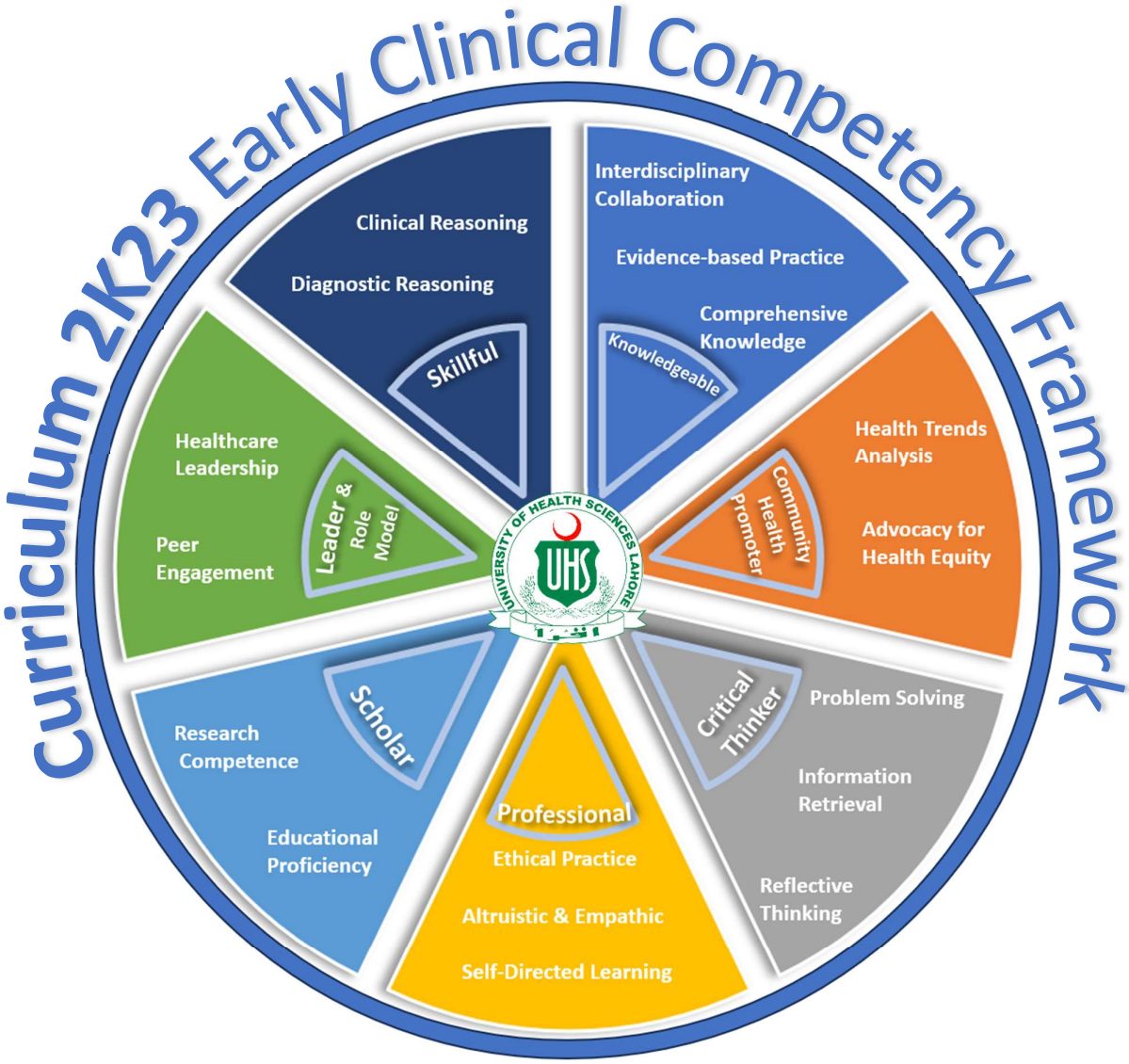
1. Skillful
2. Knowledgeable
3. Community Health Promoter
4. Critical Thinker
5. Professional
6. Scholar
7. Leader and Role Model

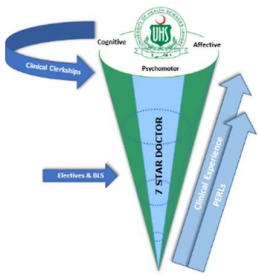
A ‘seven-star doctor’ Pakistani medical graduate should be able to demonstrate various traits as detailed under each competency. These attributes are the bare minimum requirements. The program outcomes are at par with the outcomes that the national regulatory authorities have processed till date for the MBBS graduates. **Curriculum 2K23** outcomes translate these Seven-star competencies to the objectives specific learning outcomes for the sessions.

According to national regulatory authority a Pakistani medical graduate who has attained the status of a 'seven-star doctor' is expected to demonstrate a variety of attributes within each competency. These qualities are considered essential and must be exhibited by the individual professionally and personally.

Competency Framework

(Early Clinical Year 1 & 2)





Core Competencies & Sub- Competencies to be achieved before entering the Clinical Years

Competency	Sub Competency	Behavioral Descriptors for Early Clinical Years
Skillful	**Clinical Reasoning**	1. Demonstrate the ability to apply fundamental scientific knowledge to clinical scenarios, such as patient histories and hypothetical case presentations showcasing the integration of theoretical learning into practical clinical reasoning. 2. Critically assess and evaluate existing medical literature and research to inform decision-making in hypothetical patient scenarios during preclinical case studies. 3. Engage in collaborative problem-solving exercises with peers, actively participating in preclinical problem-based discussions to enhance clinical reasoning skills through dialogue and debate.
	Diagnostic reasoning	1. Apply foundational knowledge from basic sciences to critically evaluate the clinical scenarios, to formulate differential diagnoses during preclinical case discussions.
Knowledgeable	**Holistic Understanding and Comprehensive Knowledge**	1. Demonstrate a thorough understanding of normal and abnormal structures and functions of the body. 2. Apply comprehensive knowledge in identifying molecular, cellular, biochemical, and physiological mechanisms. 3. Evaluate the impact of growth, development, and aging. 4. Explain the various etiological causes and causative agents for specific injuries, illnesses, and diseases. 5. Identify and analyse biological and social determinants and risk factors of diseases. 6. Recognize and explain patterns of normal and abnormal human behavior
	Synthesis of Interdisciplinary Knowledge	1. Integrate knowledge from various medical disciplines to inform hypothetical clinical decision-making and synthesize information for a comprehensive understanding of hypothetical patient cases. 2. Apply a holistic approach by considering the interconnectedness of biological, social, and psychological factors in theoretical healthcare scenarios, and propose integrated solutions to hypothetical clinical problems using interdisciplinary knowledge.
	Evidence Based Practice	1. Critically assess and evaluate existing medical literature and research to inform decision-making in hypothetical patient scenarios during preclinical case studies. 2. Integrate knowledge from various scientific disciplines to develop comprehensive and evidence-based

		explanations for medical phenomena encountered in preclinical coursework.
Community Health Promoter	**Health Trends Analysis**	1. Critically review scientific literature to stay informed about health trends.
	Advocacy for Health Equity, Promotion, and Prevention	1. Engage in discussions on health disparities and social determinants of health. 2. Demonstrate an understanding of community health concerns
Critical thinking	**Information Retrieval**	1. Seeks information from various academic sources, including textbooks, research articles, and online resources.
	Problem solving	1. Critically assesses experimental data during laboratory sessions, showing attention to detail and an understanding of its relevance to medical concepts. 2. Demonstrates effective identification and analysis of medical issues during case-based and problem based discussions. 3. Applies logical reasoning to propose viable solutions in problem-solving exercises. 4. Displays adaptability in integrating knowledge to address complex medical challenges. 5. Shows proficiency in utilizing evidence-based strategies to resolve clinical puzzles during preclinical training.
	Reflective Thinking	1. Sets specific learning goals, creates plans to achieve them, and reflects on progress regularly. 2. Reflects on problem-solving processes, identifying strategies that were effective and areas for refinement.
Professional	**Self-directed Learning**	1. Regularly evaluates personal academic progress and adjusts study strategies accordingly. 2. Actively engages in collaborative peer study groups to enhance learning. 3. Demonstrates effective use of technology to manage and organize study materials.
	Altruistic and Empathetic:	1. Displays empathy and understanding in peer, faculty, and staff interactions.
	Ethical Practice	1. Demonstrates self and professional accountability, honesty, and ethical behaviour. 2. Uphold principles of academic integrity in all coursework. 3. Consistently exhibits professional conduct, respecting academic and ethical standards, serving as a positive example for classmates.
Scholar	**Research Competency**	1. Displays foundational skills in research, including the identification of researchable problems, formulation of clear research questions, and engagement in

		literature reviews, setting the groundwork for future research endeavors.
	Educational Proficiency	1. Demonstrates consistent high performance in coursework, showcasing a deep understanding of foundational medical sciences during preclinical years. 2. Actively engages in self-directed learning, displaying a strong commitment to mastering educational content and fostering a solid academic foundation in the early years of MBBS.
Leader and Role Model	**Healthcare Leadership**	1. Demonstrating effective communication and teamwork skills during PBLs, simulations or practical sessions. 2. Actively seeks collaboration on group projects, fostering teamwork and collective problem-solving skills.
	Peer Engagement	1. Actively seeks opportunities to assist peers in understanding complex medical concepts, displaying a collaborative and supportive attitude that fosters a culture of shared learning and growth.

NEED ANALYSIS: THE 2nd STAGE:

Experiential Learning & the Feedback Process

Curriculum 2K23 is a live document. It was developed with the cognitive insight of experienced subject experts and skilled medical educationists, dedicated to the process of designing an integration which is practical and inclusive of all contextual elements.

The implementation process of the **Curriculum 2K23** was backed by two significant elements. The primary being the intensive faculty training at the inception through workshops and written guidelines. Secondly the continuous feedback from all the stakeholders.

Initial faculty development trainings were done across the affiliate colleges by the team of medical educationist who were involved in the principal designing and a reach out with the subject experts at the time of the development. These multiple interactions between the stakeholders not only ensured the comprehensiveness of the document but also guaranteed the validity of the content drafted. The framework of the designing process itself was authentication to the validity of the document.

Second significant aspect that was grounded into the process of development was to ensure a continuous feedback channel. Section 12 of **Curriculum 2K23** had a detailed but easy process of providing feedback regarding any aspect of the curriculum. All potential stakeholders had an easy and free access to the curriculum feedback channel. Over this last year, we have actively sought feedback from every tier of our learner community and engaged with stakeholders to ensure that the curriculum reflects the evolving needs of our students, faculty, and the community disease patterns at large.

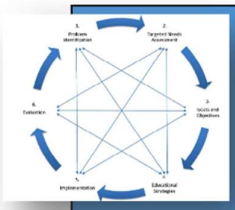
Vice Chancellor, University of Health Sciences Lahore, was meticulous regarding the structure, content, usability, feasibility, interpretation and familiarity by the end-users, the students. He adopted a methodology to himself reach out to the students and have one-on-one feedback. Students were called over from different colleges for meetings in a frank, conducive and informal way also to the university for their candid opinions, possible problems and suggestions for improvement. SPICES model of curriculum development holds ‘student-centeredness’, as a primary feature, so does Curriculum 2K23. The open channels for feedback have allowed us to

hear diverse perspectives, understand concerns, and incorporate valuable insights into the new version of the curriculum.

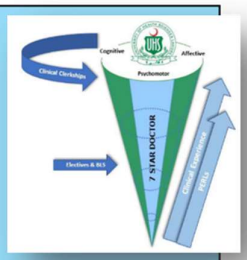
The department of medical education at the University of Health Sciences Lahore has a dedicated cell for the analysis of feedback received, ensuring timely submission of the results of the block exams and collection of the study guides as well as instructional materials for archiving. After analysis of the feedback received it was further processed in one of the two patterns. If the analysis proved an action requiring an immediate incorporation into the curriculum, then a statutory process for approval by the board of studies and the academic council was started. All other analyzed feedback was categorized, and solutions were developed through the same set of medical educationists of the 'Working Group'. The feedback and their suggested solutions were put up the review committee, subject experts, working group and the university's senior tier, for further changes and additions.

With all these actions of student centeredness, feedback collection, feedback analysis, continuous stakeholder input and transparent process of approval, the validity and viability of the **Curriculum 2K23** was continuously ensured. The experiential learning in the last one year was primarily for all the stakeholders at different points of development and implementation.

Phase 1



Designing of **C2K23** by the Medical Educationists & Faculty Members of the **Working Group For Year 1 and the 05-year framework**



Concept of Curriculum Development based, on the **Kern's Model** & aiming for the **SPICES Model**

Statutory approvals
Stakeholder inclusion
Regulatory compliance
Evidence-based practices

Implementation Phae

Faculty Development Trainings for Implementation & feedback

Statutory approval by the academic council for year 1

Feedback analysis & workup provided to the Working Group and Curriculum Review Committee for Phase II

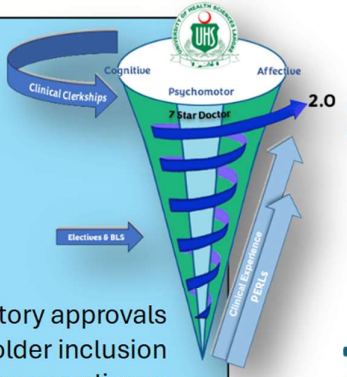
Feedback collection & Feedback Analysis

Vice Chancellor's reach out program for students & institutes.

Phase II

Designing of **C2K23** *version 2.0* by the Medical Educationists of the **Working Group Review of Year I Development of Year II**

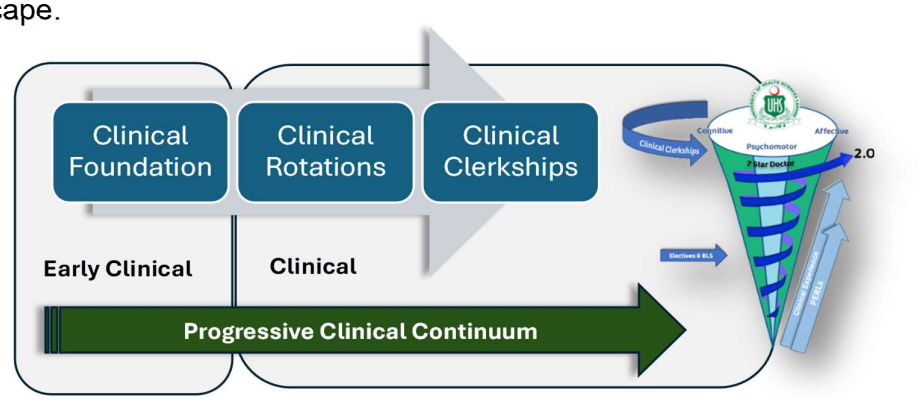
Experiential feedback, Content identification, Theme identification, hour allocation, by **Faculty & Subject Experts**



Statutory approvals
Stakeholder inclusion
Regulatory compliance
Evidence-based practices
Feedback based modifications.

Curriculum 2K23 has been refined and calibrated from the end user's perspective which is the 'student'. An elaborate effort was made all along the year to extend the openness of feedback to the faculty members who were busy engaging in the challenge of transitioning to a modular integrated practice of education. Our experiential learning has led us to a better concept of contexts for the curricular updates. Building upon the success of our initial year of implementation, this revised curriculum is a testament to our commitment to excellence, adaptability, and continuous improvement in medical education. The process of improvement owes its gratitude to our dedicated subject experts, medical educationists & the curriculum review committee, who played a pivotal role in analyzing and responding to the feedback received. Through meticulous deliberation, we have integrated suggestions that enhance the overall quality and relevance of the curriculum. Few components of pathology section edited.

The Curriculum Review Committee, comprising seasoned professionals, was instrumental in the final drafting of the curriculum. Their expertise and insights have ensured that the curriculum aligns seamlessly with the current trends in medical education and addresses the evolving needs of the healthcare landscape.

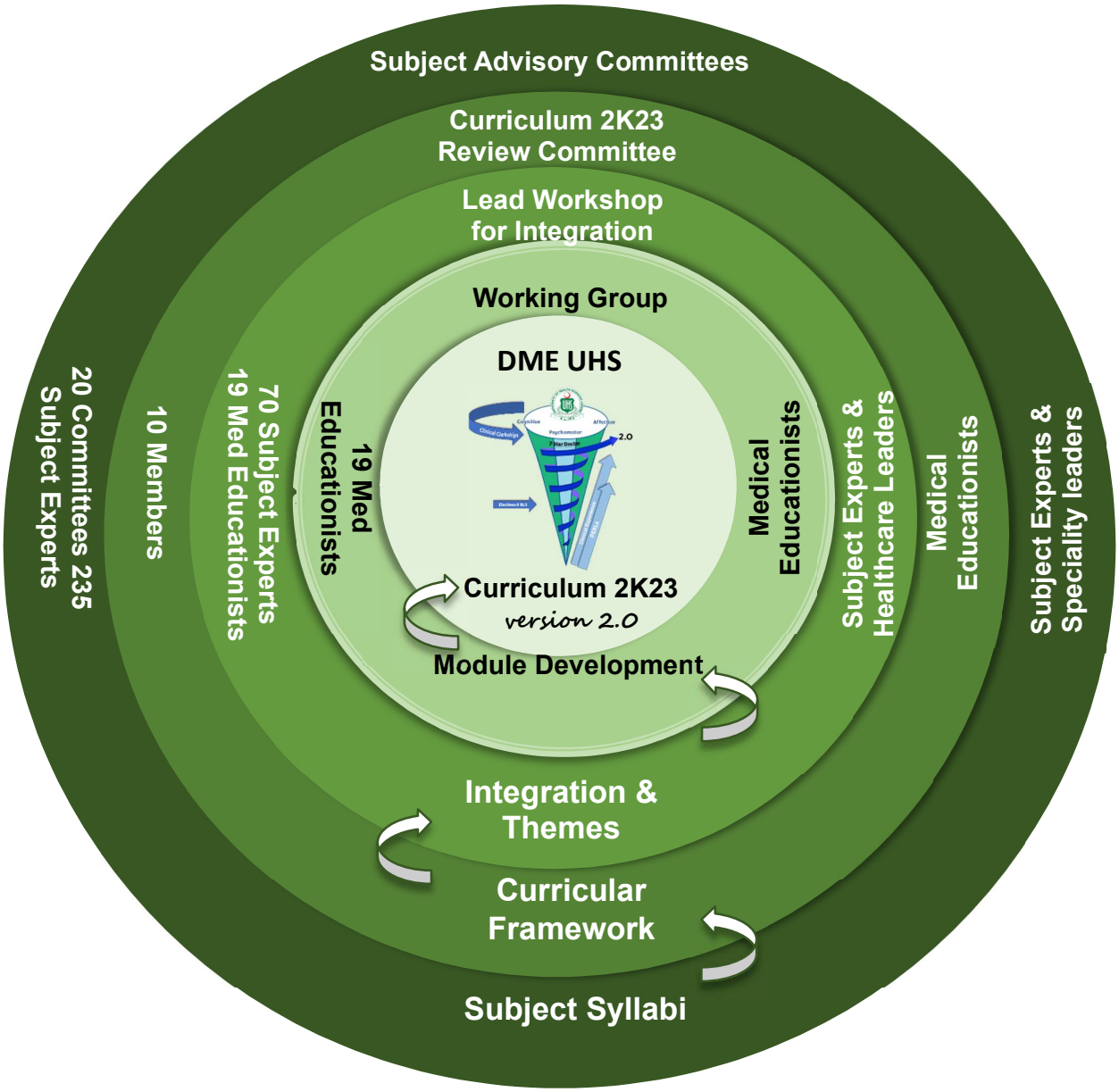


Simultaneously, the **University of Health Sciences** has undertaken exam reforms to introduce more standardized and structured assessments. These reforms, complementing the new curriculum, aim to provide a comprehensive evaluation framework that aligns with the competencies expected from medical professionals.

We aim to align the understanding of content and assessment requirements among faculty, examiners, paper setters, and, most importantly, our students. This shared understanding will contribute to a more cohesive and effective learning environment.

In conclusion, this integrated curriculum stands as a proof to our collective commitment to advancing medical education. It is the result of collaboration, feedback, and a shared vision for excellence.

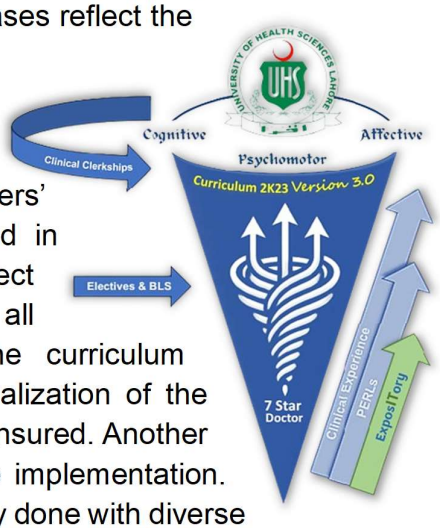
Iterative Model of Curriculum Development by UHS for Phase 2



Development & Design

Curriculum 2K23 has entered its third year of development and design, **Alhamdolillah**. The curriculum is currently being implemented in all the affiliated medical colleges of **University of Health Sciences Lahore**. The curriculum is a Modular Integrated curriculum with a spiral format. It has significant elements for affective and psychomotor training in addition to enhancing the cognitive base for diverse learning skills.

Vice Chancellor UHS envisioned an outcome-base which can ensure that our graduates are cognitively enhanced, rightly skilful and practically apt for the professional and practical challenges ahead. All three phases reflect the same ideology



Right since its inception the principal focus has been to contextualize the content and the learning experiences mentioned in the document, to be based on the stakeholders' requirements. An extensive iterative process is followed in every phase where the medical educationists, subject experts, healthcare leaders and regulatory professionals all contribute, analyze and/or review the content of the curriculum development. By virtue of this mechanism the contextualization of the subjects within the curriculum to the practical aspects is ensured. Another overarching context is relatability to the affiliated college implementation. This is ensured as the process of development is principally done with diverse representation from different affiliated medical colleges.

The second phase and third phase followed the same methodology of design and development. This has further potentiated the identification of the learning needs, instructional strategies and assessment methodologies. The second phase defined distinctly the pre-clinical competency framework. The attainment of these competencies has enabled the learner to step into the clinical years with preparedness and aligned skill set.

The third phase of design and development of **Curriculum 2K23** is primarily about transitioning of the learners to clinical years. This is about broadening our learner's psychomotor base and aligning it with the cognitive components in a more practical and purposeful manner. Diversity of learning practices has also been offered for practice and implementation at the college levels.

Feedback & Revamp

A robust mechanism for feedback has always existed as an integral component of **Curriculum 2K23** which has a claim of being a contextualized live document. Chapter 12 of **Curriculum 2K23** *version 2.0* elaborated explicitly the process of feedback. This feedback process was effectively utilized by many affiliated colleges, faculty members, medical educationists and students. All the feedback with possible solutions received were analyzed and processed for recommended amendments in the current version. These solutions if found feasible, implementable and in line with the curricular requirements by the respective subject experts have been included in the **Curriculum 2K23** *version 3.0.* We suggest that respective colleges may engage the community representatives for identifying healthcare needs which have to be further incorporated into the curriculum as the document evolves in the subsequent years.

Clinical Years

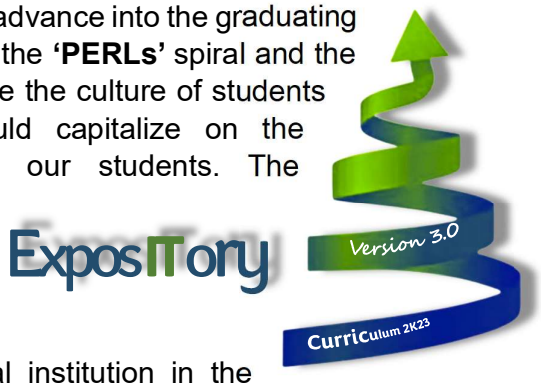
Curriculum 2K23 *version 3.0* has a lot of components which transitions the learner for clinical competence. This segment, of the entire spectrum of five years, is also the conduit for the forthcoming clerkships. Third year also has a strong backdrop of Community orientated medical education and entry to the primary healthcare approach through the module of family medicine. So principally the educational approach is transitioning from cognitive to clinical. A detailed outline in the minimum requirements is represented through the psychomotor skills development section in the curriculum and that has been mapped with the C-FRC through its logbook entries.

Development of a '**conducive clinical culture for students**' has been categorically addressed in the next chapter. Despite making suggestions as how to roll out the clinical trainings mentioned in the next chapter it is expected that significant diversity will be practiced by different institutions through the trainings, documentation and skill acquisition of the students. The faculties of respective colleges will professionally express their mettle of training as they develop and execute the clinical trainings. Robust training mechanism with an intact element of patient safety remains the hallmark of an esteemed medical institute.

New Components

Vice Chancellor UHS envisioned an outcome-base for cognitively enhanced, rightly skillful and practically apt yield of professionals. **Curriculum 2K23** *version 3.0* has been designed by the developing medical educationists and subject experts with elements which can make a graduate more practical and relevant to the applied aspects of practice. With the backdrop of this vision newer elements have been included in the curriculum.

A new '**ExposITory Spiral'** has been added to the curriculum. The '**ExposITory Spiral'** is an integrated spiral for developing the expository writing skills and use of IT and other technologies by the students as they advance into the graduating years. The '**ExposITory Spiral'** runs closely with the **'PERLs'** spiral and the institutes can utilize both these spirals to enhance the culture of students researching. Our instructional strategies should capitalize on the enhancing pace of technological usage by our students. The '**ExposITory Spiral'** can be implemented in a futuristic manner to utilize advancements of AI. Only formal training of usage of AI and related technology will enable an 'ethical' practice.



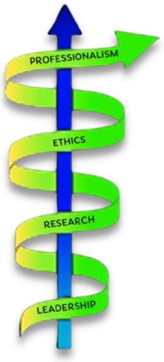
University of Health Sciences being a pivotal institution in the healthcare landscape of the country ensures that all its graduates are well versed with the existing legalities and norms. Graduates need a formal understanding of the existing regulations of practice. The '**Minimum Service Delivery Standards**' or practice as defined by the government regulatory authorities are included in the module of Community Medicine and Public Health. The students will also be sent to community and family medicine related rotations to understand the practical, legal and ethical principles in practice.

Inculcation of a culture of safety and professional responsibility in our future graduates required that a component of **Bio risk management** should be added. This would enhance the student's insight to biosafety and make them regulatory compliant.

In the current years and with a backdrop of healthcare academia the colleges are in a unique position that they acquire a leading position through acquiring communities which fall in the catchment area. Community oriented trainings can be mutually beneficial for the dependents and learners jointly. The required ambit for such initiatives can be based by the department of **Community Medicine and Public Health**.

Family Medicine has been included for the first time in the undergraduate medical curriculum. This enables to prep up our graduates for the primary and secondary healthcare facilities. The module of **Family Medicine** has didactic and rotational components. Medical colleges can integrate the rotation with other disciplines to impart better understanding of the integral position of **Family Medicine** for our healthcare system.

PERLs Module has also entered its third year of implementation. However, the implementation of this module had significant challenges and feedback. All these were analyzed, and it has been revamped for better understanding and adoptability. More specific outcomes with more explicit methodologies of content delivery have been incorporated in the **portfolio/e-portfolio**. However, the cardinal principle of PERLs module still exists that all institutions can diversly acquire the required outcomes developing the defined traits in their students. This diversity is based on resources available, faculty strengths and the institutional ideology. The instruction of usage of PERLs module has been revised and explicitly mentioned in the relevant section.



Clinical Entrepreneurship has been included as a component of Community Medicine. This will provide platform for an enterprising mindset of the graduates. **Health Economics and Clinical Entrepreneurship** are also concepts which are being suggested for the forthcoming electives and can be included at the institutional level.

Assessment

Curriculum 2K23 increased the percentage of internal assessment that contributed to summative assessment, and thus potentiating the role of the Medical Colleges. **Curriculum 2K23** *version 3.0* has re-addressed the assessment plan. In accordance with the assessment plan new nodes of assessment has been incorporated which are inclusive of continuous internal assessment, professionalism, class quiz, attendance and EOR-assessments. The programmatic assessment will give a more comprehensive approach to the faculty for better evaluation and provide learning opportunities continuously. The medical colleges will be able to utilize this programmatic assessment more effectively. The year long commitment of students having exemplary attendance is rewarded with additional marks. The all-new programmatic assessment plan is also in line with the layout prescribed by **PM&DC.**

EOR-Assessment is a mode of assessment which can ensure skill and competency acquisition for all the three clinical years. The medical colleges are at liberty to develop and submit their own respective EOR-Assessment plans along with the assessment methodologies adopted. The methodologies which have been recommended by UHS are mentioned in the relevant section. It is also recommended that the colleges should enhance the stakes of the module-specific assessment in a manner that they are linked to the block examination assessments.

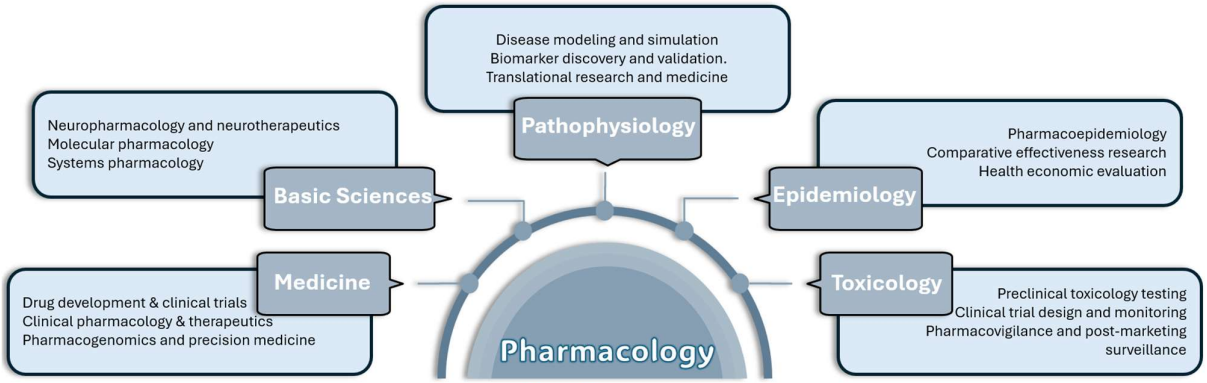
Implementation

The facade of **Curriculum 2K23** may range for different colleges based on the strategy of their implementation. The effectiveness of the curricular components is rooted in the mechanism of implementation that a college may adopt based on its strengths, resources, faculty commitment, and institutional ideology. The curriculum is not prescriptive and respects the institutional ideologies. **Curriculum 2K23** *version 3.0* also gives latitudes through its PERLs module, range of instructional techniques, diversity in clinical assessments

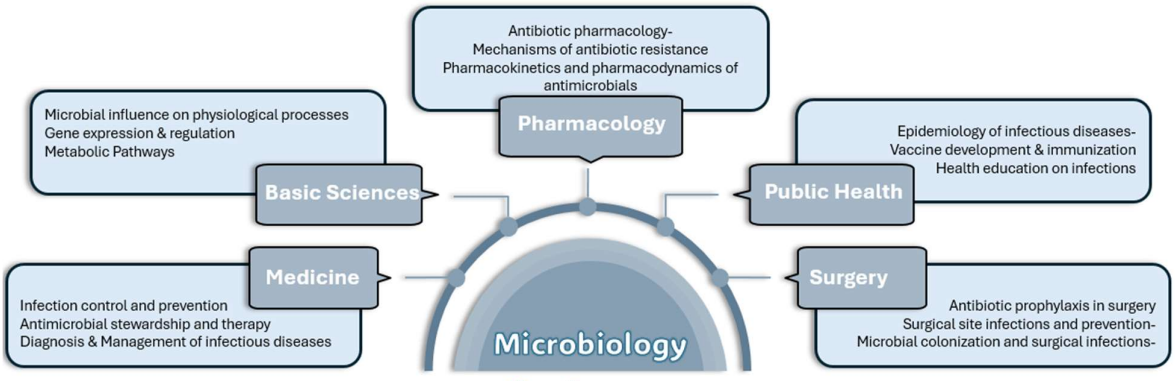
and a robust internal assessment weightage. A detailed description of how the clinical years should be strategized by the college Academic Council, is given in the next chapter.

Integration & Implementation

Curriculum 2K23 *version 3.0* has been designed meticulously to ensure that the faculty members individually or collectively can exercise their educational wisdom and experiential practices for their training strategies. The **Curriculum 2K23** *version 3.0* despite being an 'integrated' curriculum gives latitude to the faculty to develop their respective instructional strategies with their own thematic approach for integration. The content has been mentioned with recommendations for the integrating subjects. However, the choice or pattern of integrating discipline is not limited to the ones mentioned in the tables. They can be varied and diversified based on the faculty strengths, diversity of faculty members and training points. A detailed mapping of the themes and sub-themes can be undertaken at the departmental level to execute the 'integration' in a more effective manner. A couple of examples for mapping of themes are as follows:



Key Areas
Concepts & Themes of Integration

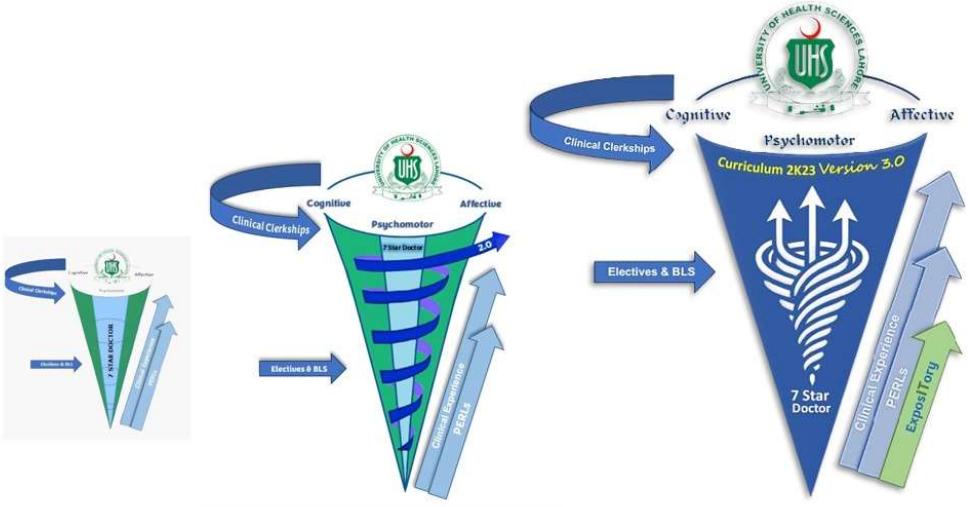


Key Areas
Concepts & Themes of Integration

Integrated assessment through MCQs and SEQs can be based on these mappings after successful implementation of integration.

Acknowledgment

For phase III, three groups of individuals need to be acknowledged. Firstly, a new **Working Group-Clinical** was nominated by **Vice Chancellor UHS**, who managed all the previously established protocols but with relevance to the forthcoming clinical year challenges. The systems thinking practice of our **Working Group-Clinical** combined with the design thinking of our **subject experts, lead faculty members and professors** at our affiliated medical colleges made the **Curriculum 2K23** *version 3.0 possible,* **Alhamdolillah.** A latent group of key players need to be categorically acknowledged for their endless efforts and silent contributions. Third group of key players are the professionals of **Department of Medical Education** who work all year long to develop, design, manage feedback, analyze feedback, formulate postulates for inclusion in the next phase and finally publish the next version of **Curriculum 2K23.**



Student engagement lies at the heart of the **University of Health Sciences'** newly revamped medical undergraduate **Modular Integrated Curriculum 2K23**.
Enhancing students' engagement for learning is also in line with the David Harden's SPICES model's student centeredness.
Curriculum 2K23 advocates active student engagement for the institutional instructional planning.
Effective student engagement encompasses three fundamental themes: setting direction for students, commitment of students for learning and facilitation of student learning. To cultivate these, certain components must be inculcated to address the context of the curriculum, competencies and outcomes. This would ultimately lead to the adoption of diverse instructional strategies for successful implementation.

Setting Direction for Students entails guiding learners through their educational path, clinical skill acquisition and affective training with structured support and mentorship. Colleges can employ diverse instructional strategies based on their local situations. Collaborative learning techniques and technology-enhanced learning are the in-vogue elements of instruction. These can be incorporated for student learning. However, all the techniques are to be backed explicitly by Clear guidance for the desired educational outcomes. **Curriculum 2K23** is well structured and aligned for the cause of setting direction of the student. All the contextual tangents are also covered. Same clarity of direction for the outcomes is required at the institutional level. Only this clarity will navigate the student for professional and academic the ownership of his/her learning process and educational autonomy.

Commitment of Students is nurtured by fostering a strong sense of purpose and ownership in their learning process. By aligning educational experiences with clear competencies and outcomes, students understand the expectations and skills they need to master. **Curriculum 2K23** has an elaborate account of these outcomes and competencies. Now it is the institutional prerogative to implement and endorse this

alignment. This direction will motivate and make the learner commit to set personal learning goals, engage deeply with content mentioned, and continually embrace feedback. Faculty are urged to provide timely, formative feedback and create a supportive learning environment that inspires dedication and perseverance.

Facilitation of Student Learning involves creating an environment where students are empowered to take charge of their educational journey. Faculty members are encouraged to deliver the context of the curriculum that reflects real-world scenarios and clinical relevance, allowing students to connect theoretical knowledge with practical application. Students should enhance critical thinking and be active participants of their learning process.

Through this multi-faceted approach, the University of Health Sciences ensures that students of all the affiliated and constituent institutes are not just passive recipients of knowledge but active participants in their educational development, prepared for the challenges of modern medical practice, national requirements and global employability.

Quest for medical mastery is paved with epistemic curiosity, educational engagement, and relentless pursuit of knowledge. A learner grows with every challenge

Creating a Conducive Clinical Culture for the students

Curriculum 2K23 version 3.0

Clinical Culture

Students of Modular Integrated Curriculum 2K23 version 3.0 are stepping into the third year of their training which is the transition from **basic sciences** to the **clinical sciences**. The paradigm of integration itself preps the learner for a more convenient transition to the clinical years. However, institutions and the clinical departments are suggested to make the learning experience during these years more conducive, hands-on and with a synergistic approach to develop sound affective traits for the promising professionals. The core values of the institutions should ultimately be reflected through the professional practices of the graduating doctors.

A substantive clinical culture would nurture, support, and challenge students to become skilled, compassionate, and ethical healthcare professionals with an uncompromised patient safety and care. A clinical culture roots from the committed values, professionals' behaviours and approach based on care.

Aim

The aim is to educate a comprehensive understanding of the set of professional, clinical and behavioural expectations. **Students are expected to be professional in their conduct.** The entire clinical faculty serves as the role model for the students. Existing professional practices would serve as the declared institutional standards. So, a deliberate and categorial workup regarding setting a conducive environment of clinical learning backed by meticulous clinical behaviors must be undertaken by all professionals, of all tiers, always.

Institutional Commitment

Developing a robust clinical culture needs an institutional ideology which must be declared, endorsed, adopted and implemented by all tiers. A mechanism must be devised to commit to these details. A few of the recommended steps are:

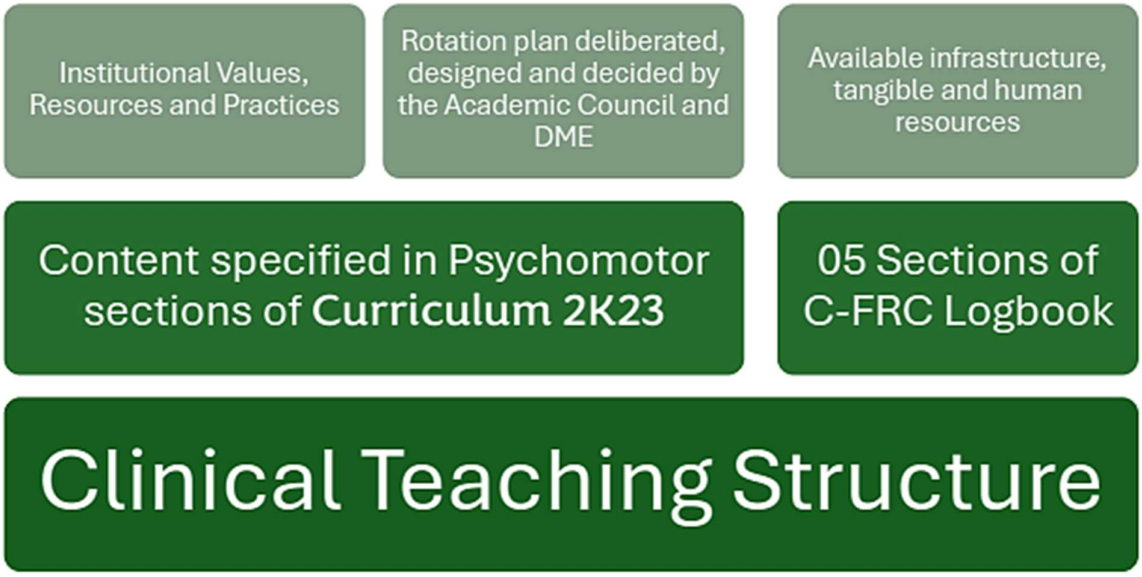
- Principal along with the Clinical Faculty Heads should commit to develop the comprehensive plan in accordance with the competencies described in Curriculum 2K23 version 3.0.
- The annual planning should ensure that all the batches be given enough learning opportunities to acquire the required competencies during their rotations, irrespective of the sequence of the wards attended.

- Department of Medical Education should be managing the completion of assigned tasks and timely submission of the logbooks.
- The Academic Council and DME will develop and design **the 'Clinical Rotation Plan'** in accordance with the available resources, number of students, infrastructure, and the annual planner.
- All Clinical faculty heads & HODs will be **responsible** for the specific competencies / tasks / skills relevant and specific to their discipline, and workplace which must be acquired by the students as they rotate through the wards/skill labs/simulation center.
- All Clinical faculty heads & HODs will ensure that a respective plan for the students' skill acquisition is developed and designed in accordance with the competencies / tasks / psychomotor skills mentioned in **Curriculum 2K23** *version 3.0*.
- All clinical faculty heads & HODs must be aware of the specific competencies / tasks / psychomotor skills mentioned in **Curriculum 2K23** *version 3.0* , when they plan and execute the **'Competencies acquisition map**' and '**EOR-Assessments**' , specific to their disciplines.
- **EOR-Assessment** plan will be in accordance with the annual rotation plan.
- **EOR-Assessment** methodologies will be jointly decided by the clinical faculty heads and HODs keeping them uniform for all rotations
- Department of Medical Education will ensure compliance with and alignment of :
    - Clinical training structure
    - Rotation plan
    - Competencies acquisition maps of different disciplines
    - EOR-Assessments plan
    - **Curriculum 2K23** *version 3.0* ,

Skill acquisition mapping is to be designed to guide students in tracking their competencies, aiding self-reflection and targeted improvement.

Structured Clinical Teaching

Clinical teaching is to be **structured,** based on different institutional factors. All will be accounted for as planning for creating a conducive environment is undertaken and as the structure of delivery is defined. The essential components for this plan are:



Individualized Feedback

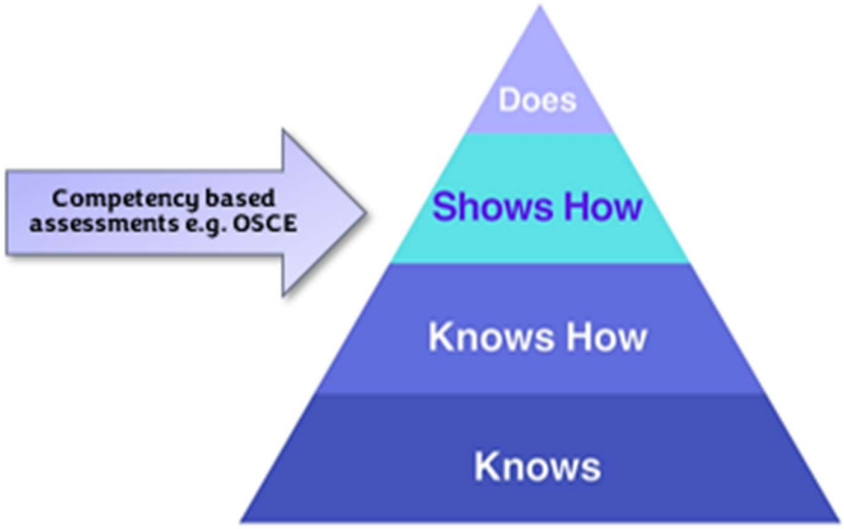
Providing and embracing feedback are both integral components for developing and delivery of a cultural change. A conducive clinical culture cannot be established without a mechanism of feedback for the students at the workplace.

- All HODs should engage in an individualized feedback process for individual students during their rotations.
- Acquisition of competency or development of skill is to be monitored by the clinical faculty. Constructive feedback is the only approach to monitor and train the students for better psychomotor skill attainment.
- The HOD should ensure that as different learners require different frequency of practice before the skill is acquired. The logbook is designed to support a repetitive practice approach before skill acquisition is endorsed.

Faculty Training

Faculty Training being an essence for any paradigm shift or cultural change necessitates it to be a part at this juncture also. DMEs can specify the need and niche for the training requirements. Every institute, thus developing their own faculty training plan.

- Clinical faculty should be encouraged to engage the students for safe practices. Keeping the clinical environment safe for the end-user, '**Patient Safety'** is mandatory and requires a categorical approach by the college leads
- Principals and DMEs are encouraged to organize faculty training as regards to standardize the **workplace-based assessment methods** for all the clinical faculty.
- DMEs should organize training workshops for the different workplace-based assessments techniques for formative and summative assessments. They can include but may not be limited to:
    - Reflective practices
    - OSCE
    - Mini CEX
    - Case based discussions
    - One Minute preceptors
- The clinical assessment should transition based on the 'Miller's triangle of clinical competence'.



Other facets of creating a conducive environment are to be catered for. Collaborative aspects of teamwork and maintaining a non-threatening environment makes the pace of work and direction of efforts aligned for a better professional environment.

Environment

- A visible coordination among all tiers of clinical professionals should exist.
- Interprofessional respect and collaboration should be ensured by the Clinical HODs. Most of colleges currently are training sites for Nursing and Allied Health students as well.
- Opportunities for peer assisted learning can be encouraged. This can be achieved by facilitating student-HO interactivity and student-student interactivity.

- Institutional policy regarding workplace harassment should be explicitly available for all tiers of healthcare professionals and students.
- Student and doctor's burnout should be catered for categorically. A **fatigue mitigation** plan should be available.
- Standards for patient safety should be visibly adopted.
- Student health and safety protocols should also be exercised and standards publicized.

Implementation

A few recommendations for an effective clinical rotation plan are as follows. However, they are not prescriptive and maybe adopted partially or fully depending on the plausibility of institutional implementation.

- No batch should exceed more than 15 students.
- Every Batch should be managed by one responsible focal person.
- Every batch should also have a designated faculty member for the day-to-day affairs for the duration of the rotation.
- Attendance of each individual student should be monitored on daily basis.
- Formative assessment for the students all along the duration of the rotation.
- **EOR Assessment** which will be endorsed as summative assessment in the internal assessment and sent to the UHS at the end of each block
- Active Learning and active participatory approach by the students should be ensured.
- Regular Case presentations followed by clinical discussions.
- Radiology, labs, instruments, sutures, drains to be discussed as well
- **Prescription inference cards** should be filled and submitted during the ward rotations.
- Psychomotor skills should be observed and conducted by students under close supervision of a senior faculty member.
- Interactive learning, reflective practices is a learning methodology which can be inculcated for clinical trainings.
- Feedback practices as formative and continuous internal assessment should be a norm.
- Clinical and procedural skills teachings taught on manikins should be structured
- Always ensure compliance to the ethical standards by all students.
- Student clothing should be professional during the rotations.

Policy Workup

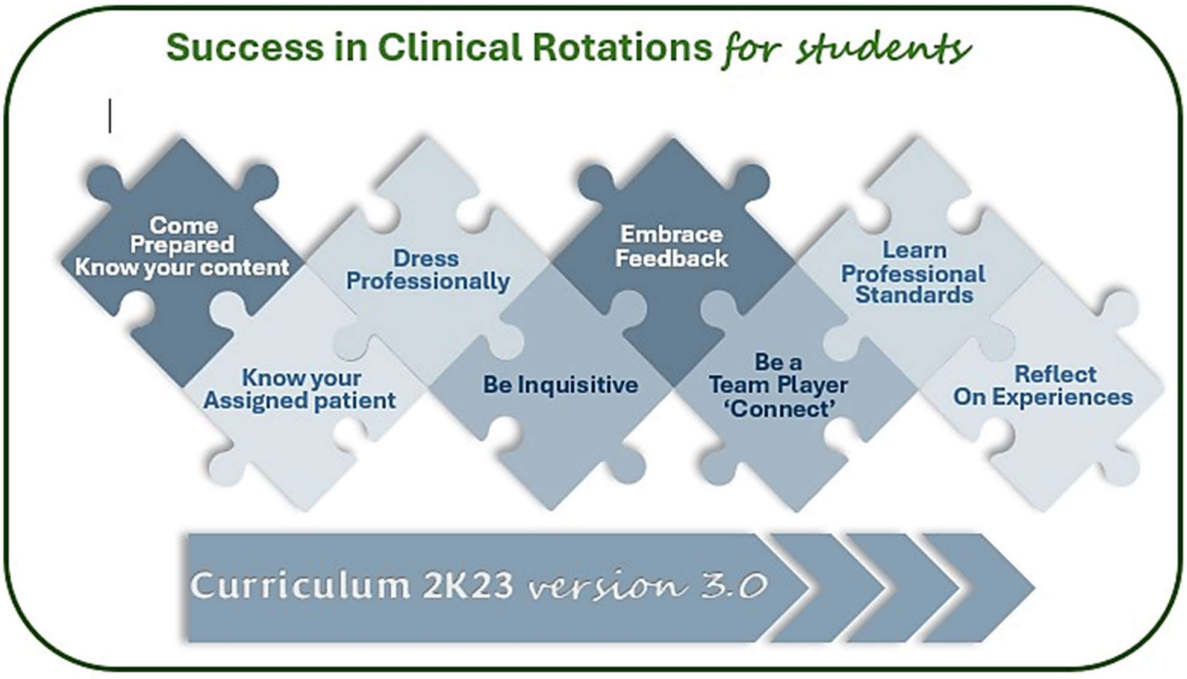
To create a conducive clinical culture for the students and to standardize the professional practices the recommendations for explicit documentation and policy formulation by an affiliate medical college may include but are not limited to:

- Vision statement

- Mission statement
- Core Values
- SOPs of common procedures, triage, emergency scenarios etc.
- Code of Ethics
- Professional Qualities for all Clinical Rotations
- Harassment policy
- Fatigue mitigation protocols
- Mental health reaches out program
- Disciplinary policy
- EOR Assessment framework
- Student feedback protocols
- Study guides

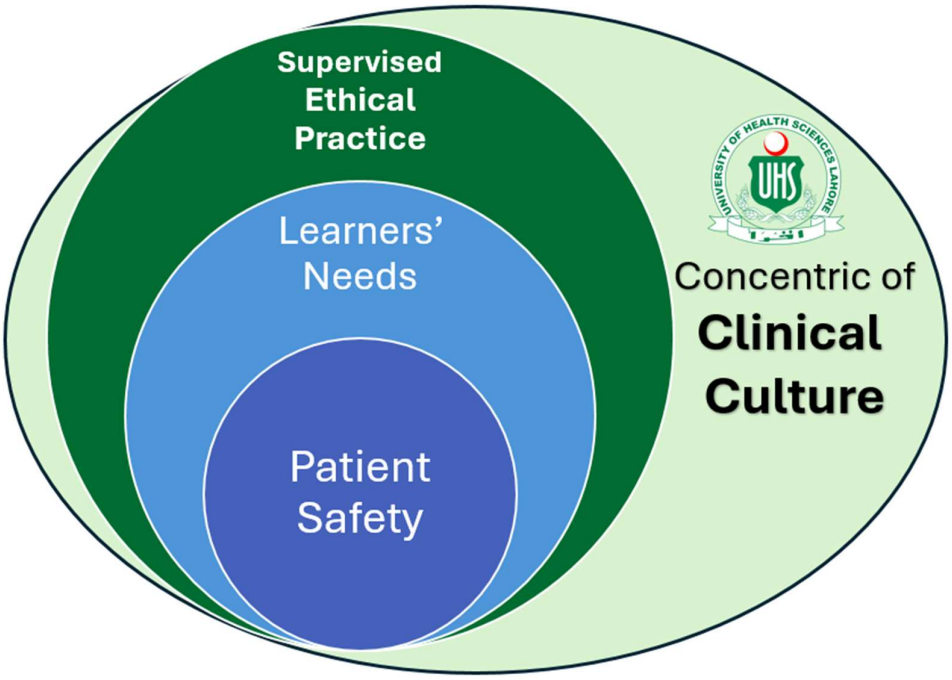
All institutions should develop separate guides for the students for their clinical years rotations. A suggested model of work or/and code of ethics with guiding principles.

Students Guide



Developing a sound clinical culture for the students' learning with a backdrop of safeguarding the patients right to treatment, privacy, integrity and safety will remain the hallmark of implementation of Curriculum 2K23

UHS Model for Clinical Culture



A substantive clinical culture would nurture, support, and challenge students to become skilled, compassionate, and ethical healthcare professionals with an uncompromised patient safety and care. A clinical culture roots from the committed values, professionals' behaviours and clinical approach based on patient-centric care.

An example of a Rotational Plan

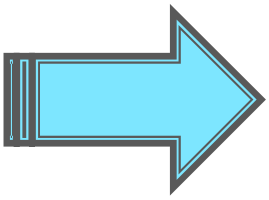
At the start of the year the checklists will look like:

Block 1	Block 1	Block 1	Block 1	Surg & Allied	Surg & Allied	Surg & Allied	**EOR Assessment**
Block 1	Block 1	Block 1	Block 1	Surg & Allied	Surg & Allied	Surg & Allied	
Block 2	Block 2	Block 2	Block 2	Surg & Allied	Surg & Allied	Surg & Allied	**EOR Assessment**
Block 2	Block 2	Block 2	Block 2	Med & Allied	Med & Allied	Med & Allied	
Block 3	Block 3	Block 3	Block 3	Med & Allied	Med & Allied	Med & Allied	**EOR Assessment**
Block 3	Block 3	Block 3	Block 3	Med & Allied	Med & Allied	Med & Allied	

The requirement is to have

1. At least one third of the checkboxes ticked out based on the pattern of rotation plan designed by the DME relevant to existing wards and number of students.
2. At least one **EOR-Assessment** taken

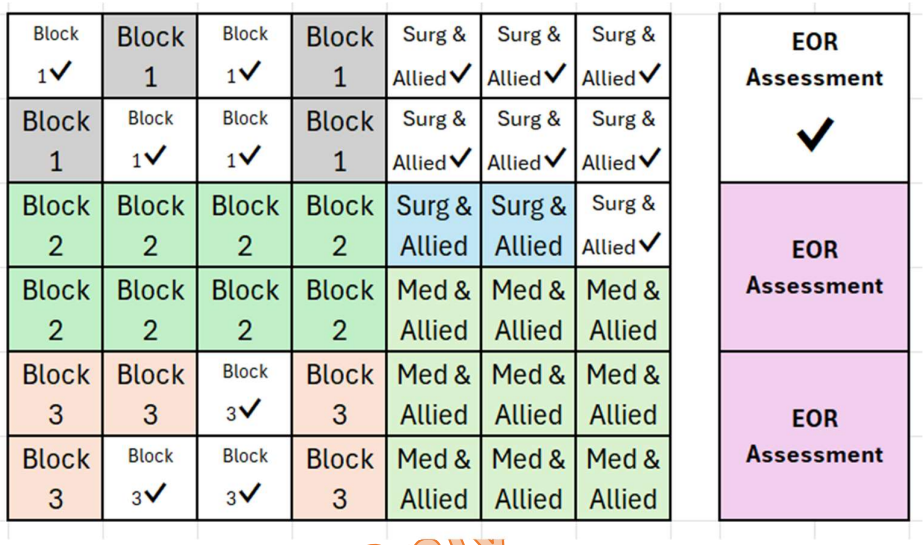
Example continued next page



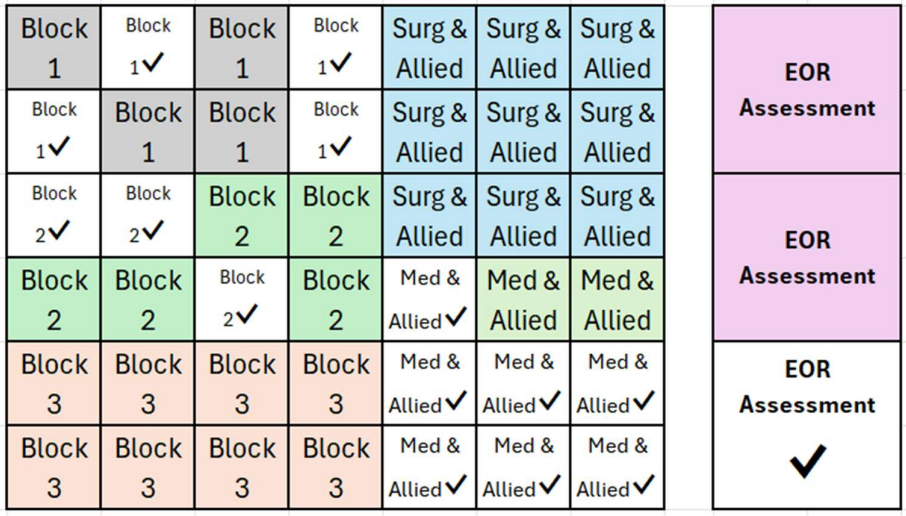
An example:

By the end of Block 1

Batch Alpha's logbook may look like this after fulfilling the above-mentioned requirements



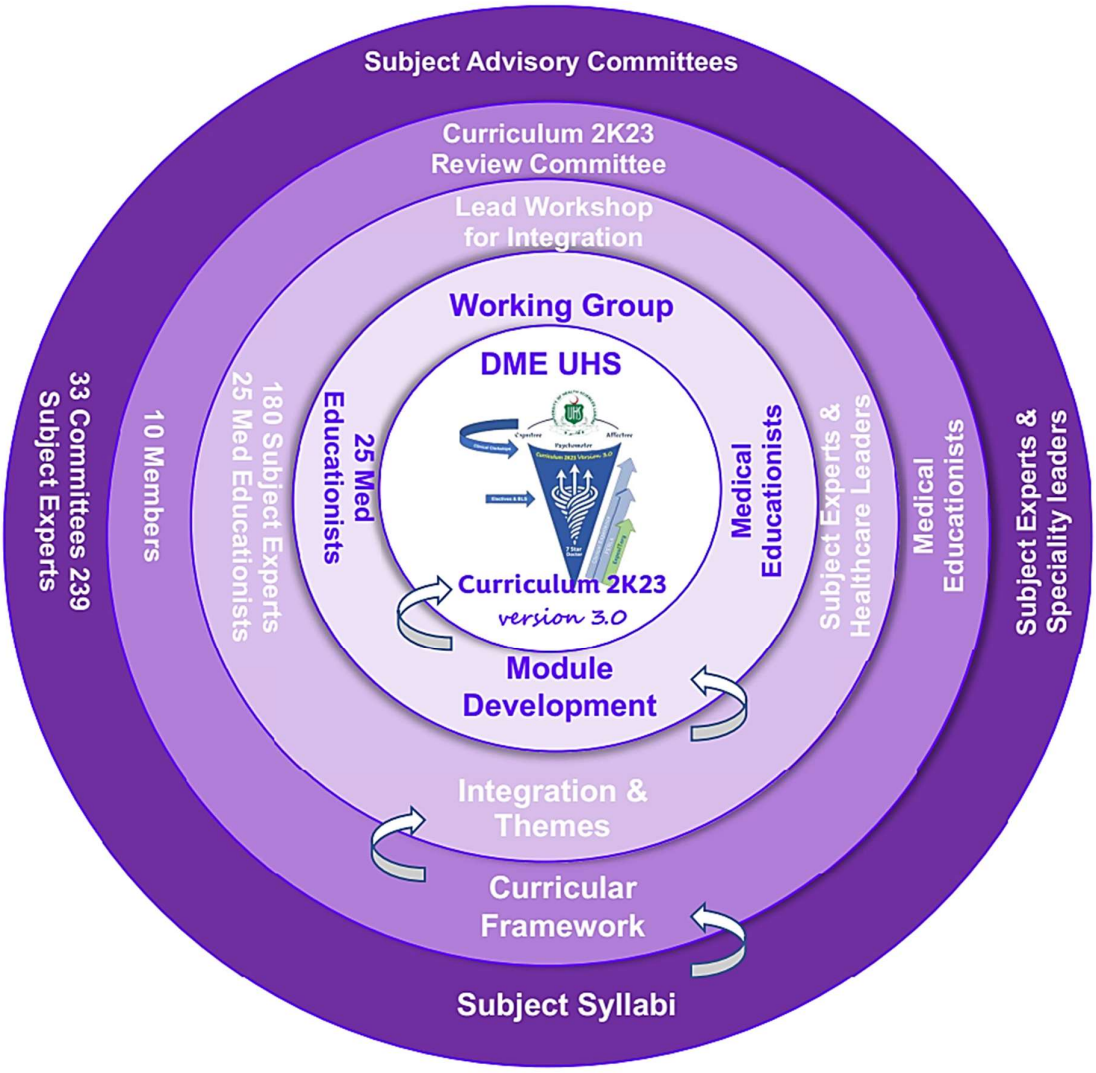
Whereas Batch Bravo's logbook may look like this after fulfilling the above-mentioned requirements

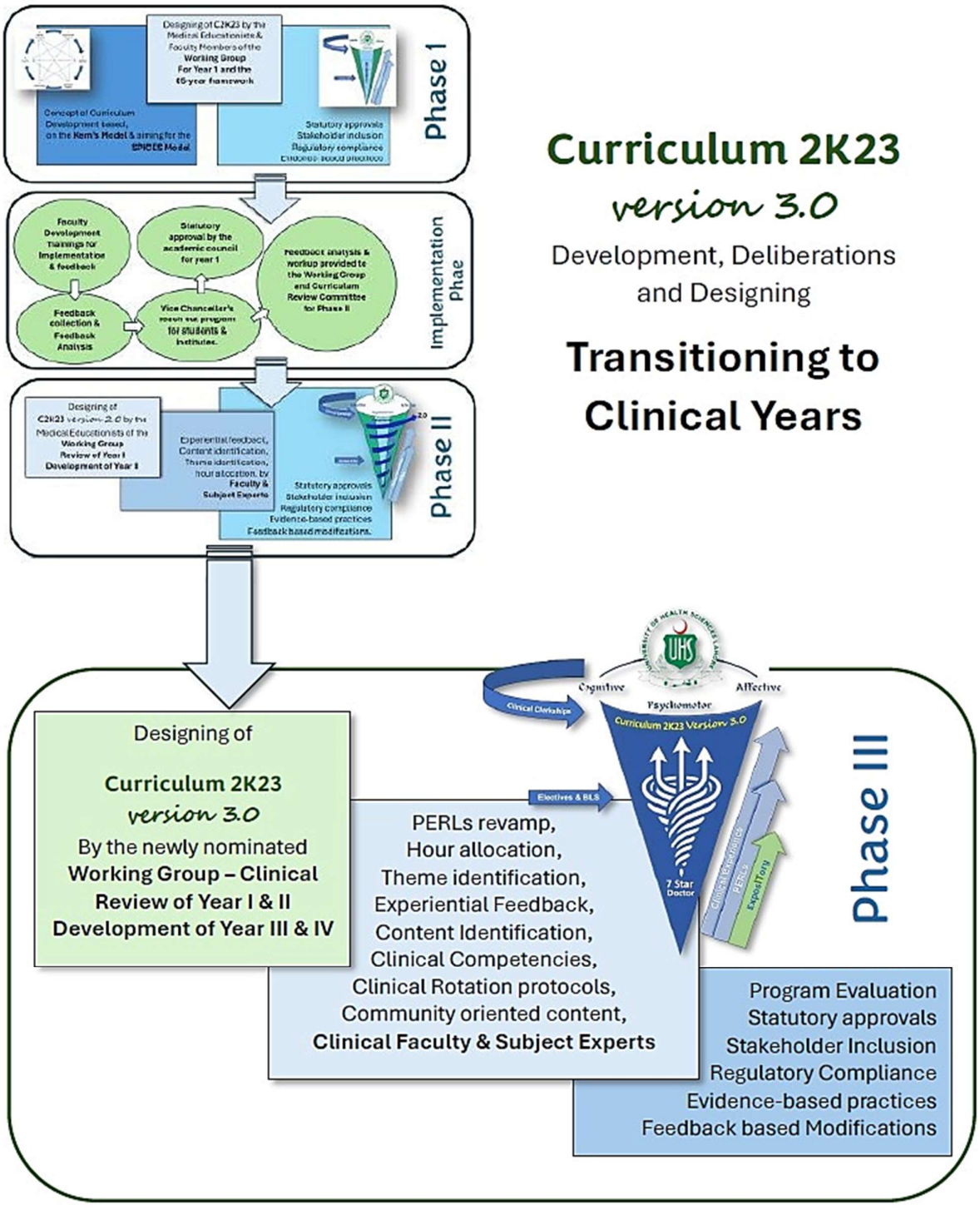


However, by the end of the year, before appearing for the University Assessment ALL the batches will have logbooks and **EOR-Assessments** like this

Block 1✓	Block 1✓	Block 1✓	Block 1✓	Surg & Allied✓	Surg & Allied✓	Surg & Allied✓	**EOR Assessment** ✓
Block 1✓	Block 1✓	Block 1✓	Block 1✓	Surg & Allied✓	Surg & Allied✓	Surg & Allied✓	
Block 2✓	Block 2✓	Block 2✓	Block 2✓	Surg & Allied✓	Surg & Allied✓	Surg & Allied✓	**EOR Assessment** ✓
Block 2✓	Block 2✓	Block 2✓	Block 2✓	Med & Allied✓	Med & Allied✓	Med & Allied✓	
Block 3✓	Block 3✓	Block 3✓	Block 3✓	Med & Allied✓	Med & Allied✓	Med & Allied✓	**EOR Assessment** ✓
Block 3✓	Block 3✓	Block 3✓	Block 3✓	Med & Allied✓	Med & Allied✓	Med & Allied✓	

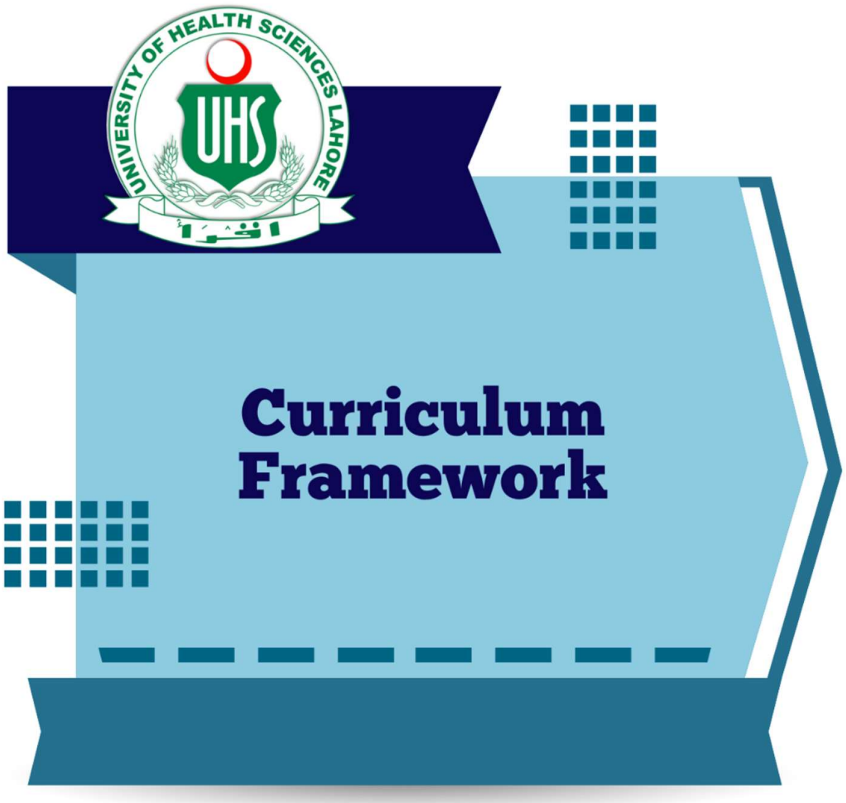
Iterative Model of Curriculum Development by UHS Phase-III





Lt. Col. (R) Dr. Khalid Rahim Khan TI (M)
Ex-Director Medical Education
University of Health Sciences


03
Section


UNIVERSITY OF HEALTH SCIENCES LAHORE
UHS
Curriculum
Framework

Modular Integrated Curriculum 2K23 Framework

YEAR-1

MODULES

BLOCK-I
- FOUNDATION-I
- HEMATOPOIETIC & LYMPHATIC

BLOCK-II
- MUSCULOSKELETAL & LOCOMOTION-I

BLOCK-III
- CARDIOVASCULAR-I
- RESPIRATORY-I

QURAN-1
PERLS-1
EXPOSITORY-1
ISLAMIYAT / CIVICS
PAKISTAN STUDIES

C-FRC 1
(CLINICAL-FOUNDATION, ROTATION, CLERKSHIPS)

YEAR-2

MODULES

BLOCK-IV
- GIT & NUTRITION-I
- RENAL-I

BLOCK-V
- ENDOCRINOLOGY & REPRODUCTION-I
- HEAD & NECK, SPECIAL SENSES

BLOCK-VI
- NEUROSCIENCES-I
- INFLAMMATION

QURAN-2
PERLS-2
EXPOSITORY-2
ISLAMIYAT / CIVICS
PAKISTAN STUDIES

C-FRC 2
(CLINICAL-FOUNDATION, ROTATION, CLERKSHIPS)

YEAR-3

MODULES

BLOCK-VII
- FOUNDATION-2 & EBM
- GENERAL & CLINICAL PHARMACOLOGY
- HEMATOPOIETIC & IMMUNITY & TRANSPLANT
- FORENSIC MEDICINE & TOXICOLOGY-I
- NEOPLASIA

BLOCK-VIII
- INFECTIOUS DISEASE
- MUSCULOSKELETAL & LOCOMOTION-II
- FORENSIC MEDICINE & TOXICOLOGY-II
- CARDIOVASCULAR-II

BLOCK-IX
- RESPIRATORY-II
- COMMUNITY MEDICINE & FAMILY HEALTH-I
- FORENSIC MEDICINE & TOXICOLOGY-III

PERLS-3
EXPOSITORY-3

C-FRC 3
(CLINICAL-FOUNDATION, ROTATION, CLERKSHIPS)

YEAR-4

MODULES

BLOCK-X
- COMMUNITY MEDICINE & FAMILY HEALTH-II
- GIT & NUTRITION-II
- EYE & ENT-I

BLOCK-XI
- NEUROSCIENCES-II
- PSYCHIATRY & BEHAVIORAL SCIENCES
- RENAL-II
- EYE & ENT-II

BLOCK-XII
- ENDOCRINOLOGY & REPRODUCTION-II
- DERMATOLOGY
- EYE & ENT-III

BLS WORKSHOPS
ELECTIVES
PERLS-4
EXPOSITORY-4

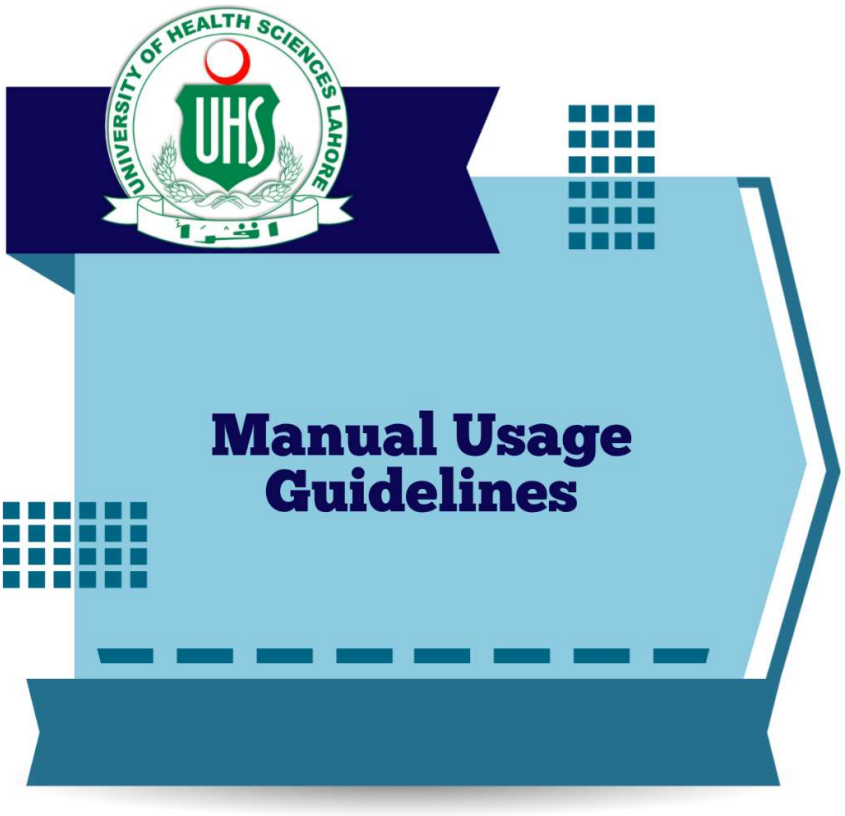
C-FRC 4
(CLINICAL-FOUNDATION, ROTATION, CLERKSHIPS)

YEAR-5

CLERKSHIPS

- SURGERY
- GYNECOLOGY & OBSTETRICS
- MEDICINE
- PEDIATRICS

C-FRC 5
(CLINICAL-FOUNDATION, ROTATION, CLERKSHIPS)


UNIVERSITY OF HEALTH SCIENCES LAHORE
UHS
Manual Usage Guidelines

Manual Usage Guidelines

Introduction

This manual provides a structured guide for implementing the integrated medical and dental curriculum across all affiliated institutions of the University of Health Sciences (UHS). It outlines how faculty and departments can translate curricular intent into effective educational practice through coordinated planning, teaching, and assessment.
With 45 medical and 17 dental constituent & affiliated colleges, UHS has designed this manual to ensure consistency in standards while allowing institutional autonomy in scheduling and implementation within the academic year.

The manual embodies the collective vision of promoting high-quality, student-centered, and outcome-oriented medical and dental education.

Purpose of the Manual

The manual serves as a foundational document to support the systematic integration of multiple disciplines in both teaching and assessment. It encourages alignment between learning outcomes, instructional strategies, and evaluation methods to ensure a coherent learning experience for students through proper implementation by the institutions.
Certificate courses in Health Professions Education (HPE) have significantly contributed to building faculty capacity, equipping educators with the understanding and skills required for implementing this curriculum effectively. Consequently, most medical and dental faculty are now well versed in applying the principles embedded within this manual as *2K23 Curriculum* is practiced since 2023.

Adhering to this manual will yield multiple benefits:

- Ensures alignment between outcomes, content, and assessment.
- Promotes horizontal and vertical integration of disciplines.
- Enhances student engagement through active, learner-centered approaches.
- Strengthens accountability and standardization across affiliated colleges.
- Encourages reflective and evidence-informed educational practice among faculty.

Guiding Principles

The manual is based on well-established educational principles that underpin modern health professions education. These include:

1. **Outcome-Based Education (OBE)**

   The curriculum emphasizes that *outcome matters*. Every discipline and topic is aligned with defined learning outcomes, ensuring that teaching and assessment are directed toward developing the competencies expected of a graduate.

2. **Student-Centered Learning**

   Learners are at the core of all educational activities. Teaching strategies should promote active participation, self-directed learning, and reflection, enabling students to become independent and lifelong learners.

3. **Integration of Disciplines**

The first step toward true integration involves collaboration among multiple disciplines in both teaching and assessment. This fosters connections between basic and clinical sciences, allowing students to appreciate the relevance of foundational knowledge in patient care.

4. **Appropriate Responsibility**

Following Harden's principle of *"the right thing by the right person at the right time,"* teaching and assessment responsibilities should correspond to faculty expertise and the learner's developmental stage.

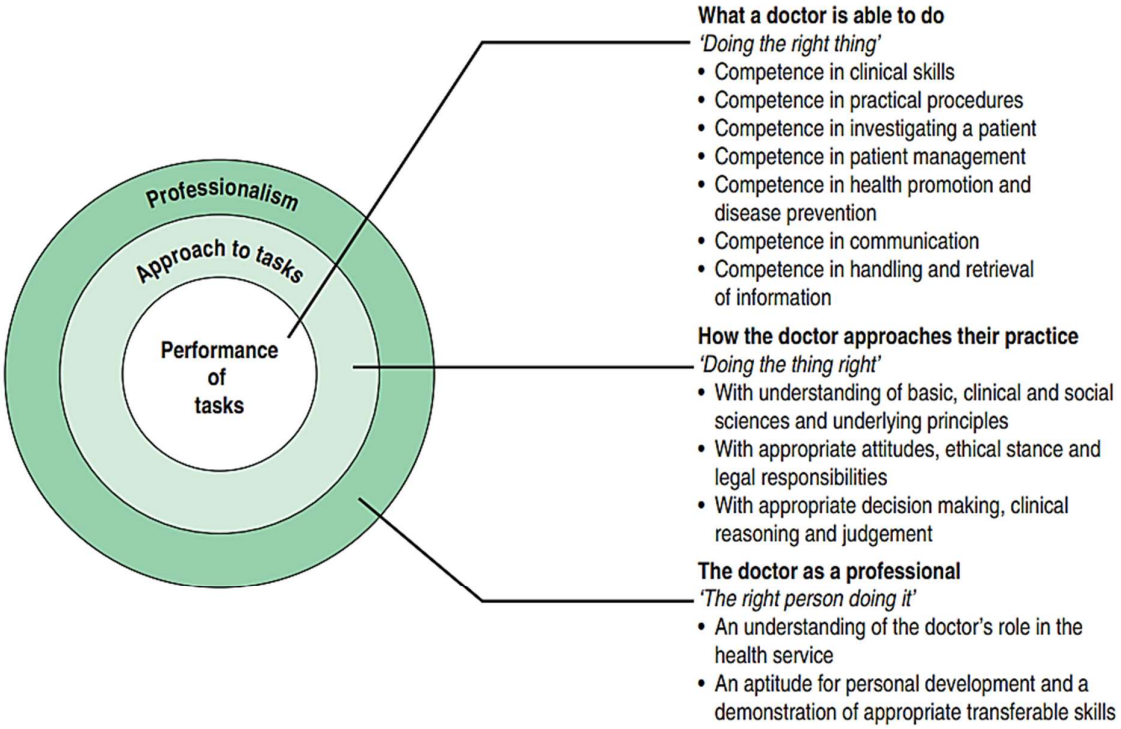
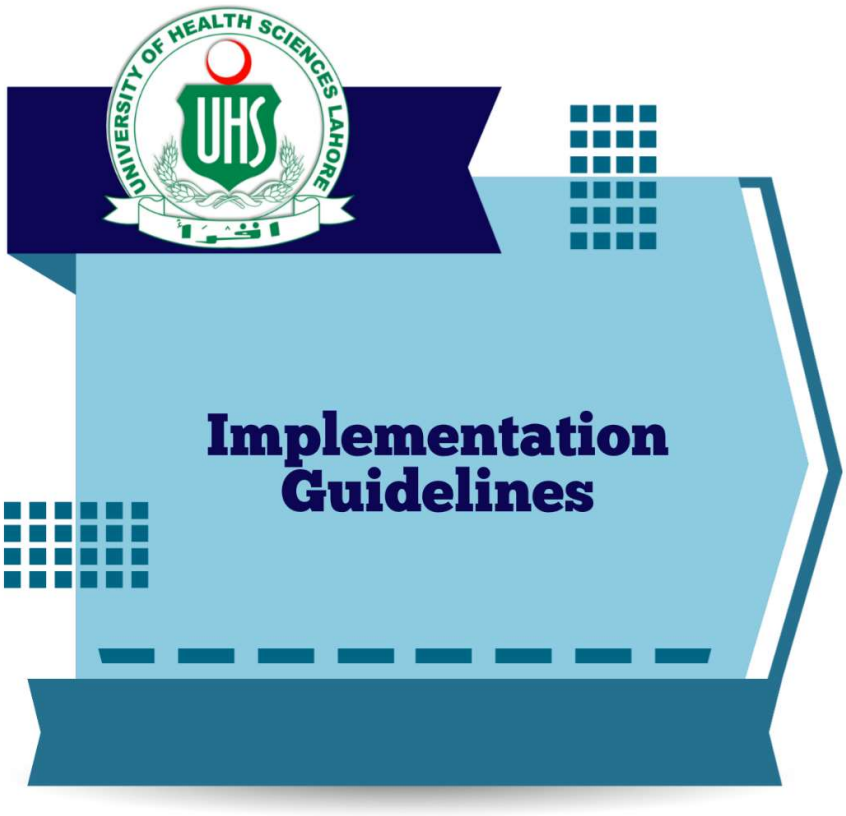


Fig. 9.2 The 12 learning outcomes of the Scottish Doctor (Simpson et al, 2002).

5. **Faculty Collaboration and Autonomy**

   While the manual provides a standard framework, it also respects the diversity of institutional contexts. Each institution has the autonomy to design and plan within allocated timeframes while maintaining alignment with core learning outcomes and educational standards.


UNIVERSITY OF HEALTH SCIENCES LAHORE
UHS
Implementation
Guidelines

Implementation Guidelines

1. Establish an Implementation Team

Each college should constitute an internal Implementation Committee that includes:

- Academic Year Coordinator
- Head of Medical Education/ Dental Education
- Block in-charges
- Module In-charges
- Subject leads
- Assessment coordinator
- Timetable coordinator

This team will ensure the following components through-out the academic year:

i. Faculty Orientation & Development:

- Before starting the academic year:
  - Faculty must be briefed on learning outcomes, module structure, teaching strategies, and assessment formats.
  - Faculty are encouraged to be very careful for the Implementation of the Outcomes, as it is the outcome that matters the most (It's depth and breadth must be clearly defined as per the action verbs used)
  - Institutional heads are encouraged to assign DME/DE faculty to organize, conduct, and continue building faculty capacity through workshops, short courses, and reflective discussions on teaching and assessment.
- New faculty should go through a mandatory curriculum orientation workshop run by the DME/DE.

ii. Student Orientation:

- Before starting the academic year:
  - Students must be briefed the full academics and they must be introduced with their year coordinator, module in-charges and mentors.

iii. Student Coaching & Mentoring:

Institutional Head must ensure coaching and mentoring of students when and where required.

iv. Curricular Mapping:

Align each topic and teaching activity with the intended learning outcomes. Timetable committees will be encouraged to design modular and blocks' content mapping by involving all the stakeholders and displayed on Institutional Website/Notice Boards for all the students & faculty.

v. Module Planning:

Develop module outlines specifying objectives, learning methods, and assessment tools. Faculty must map lectures, practical sessions and clinical exposure to specific learning outcomes.

vi. Integrated Teaching:

Ensure interdepartmental collaboration to ensure content relevance, and coherence. While planning timetable and allocation of subjects, only focus will be on achieving the outcomes and faculty can be engaged as per Institute's resources.

vii. Assessment Design:

- Integrate formative and summative assessments that evaluate knowledge, skills, and attitudes in alignment with outcomes. Internal exam schedules should be part of the academic calendar.
- Programmatic assessment is practiced worldwide. In the current system, internal assessment serves as the fundamental mechanism for monitoring students' academic progress. Institutions are therefore encouraged to plan regular formative assessments, including SEQs, assignments, MCQs, buzz group activities, student presentations, etc. This approach allows timely identification of areas requiring improvement related to attendance and academic performance, enabling early intervention. Recognizing the strengths of continuous assessment, the implementation team will ensure mid-block identification of students who

require attendance and/or academic support. Early detection helps prevent serious academic consequences and reduces the need for lengthy remedial or re-sit examination procedures. This approach conserves faculty time and effort while simultaneously empowering students to take ownership of their learning.

viii. Continuous Review:

Regularly gather feedback from students and faculty to revise and improve the implementation process. Each college must:

- Conduct monthly internal audits of teaching progress
- Collect student feedback after each module
- Institutes must keep a proper record and submit an implementation summary to DME, UHS via Vice Chancellor Office when requested.

2. Develop a Yearly Academic Plan:

Colleges must align their timetables with the approved academic weeks.
The academic plan should include:

- Weekly distribution of topics based on LOs
- Allocation of protected self-study hours
- Library time
- Skills workshops (Mandatory and others)
- PERLs/PRISME sessions
- Co-/Extra-curricular activities
- Electives (where needed)
- Evening Clinical Teaching & Training (as per need)
- Research Work
- Interdisciplinary seminars (Mandatory after every module in Pre-Clinical Years)
- Assessment (Quizzes/Buzz Groups/Student Presentations/Class Tests/Module End Exam/Mid-Block Exam/Block Exam)

Timetables must ensure there is **no overlap between modules** and **no duplication between different disciplines.**

3. Mandatory Clinical Skills Workshops

Each academic year coordinator will ensure implementation of all the mandatory workshops enlisted in the Curricular document for that specific class/year. Each workshop must include:

- Demonstration
- Supervised practice
- Logbook entry

4. Maintain Standardized PERLs/PRISME Implementation

All the students will be well versed with the PERLs/PRISME objectives/training and maintaining portfolio documents duly signed by the supervisor/mentor/whosoever relevant with the assigned activity.

5. Clinical Rotations

Colleges must ensure structured rotations:

- Rotations should align with module content.
- Students must complete logbooks signed by supervisors
- Community fieldwork reports (where needed).

Guidelines for Designing Academic Calendar:

A paradigm shift from traditional to integrated education requires a stronger focus on learning outcomes. Different disciplines are expected to align their teaching and learning strategies with student needs and curricular requirements. Keeping this vital element of student learning in view, the document has been designed to provide institutions with the autonomy to plan their academic activities according to available resources. A **broad general guideline** is provided to ensure the proper utilization of academic hours and activities

Sr. No.	Activity	Description / Purpose	Scheduling Guidance
1.	Routine Classes and Assessments (Islamiyat, Pakistan Studies, civics included)	Regular teaching sessions, tutorials, and formative/summative assessments as per the institutional timetable.	Distribute as per defined boundary of the LO
2.	Dedicated Library Time	Structured periods for literature review, reference work, and independent study.	Allocate weekly or bi-weekly slots.
3.	Protected Self-Study Hours & Research	Reserved time for students to revise, prepare assignments, or engage in reflective learning.	Must be included in monthly planner & it should not overlap with teaching hours.
4.	Clinical Rotations /PERLs/ PRISME/ Field Visits	Supervised clinical exposure in hospital and community settings.	*Schedule as per departmental rotation plans/morning or evening and ER as per need/academic year.
5.	Co-curricular and Extra-curricular Activities	Activities promoting professional, ethical, and inter & intra personal development.	Integrate periodically throughout the academic year.
6.	Mandatory Clinical Skills Workshops	Hands-on sessions to practice core procedural and communication skills.	As per curricular document

7.	End-of-Module Supervised Interdisciplinary Student led-Seminars, Symposiums, and CPCs/Buzz Group/ Quizzes/ Student Presentations	Collaborative academic events to consolidate integrated learning.	Schedule at the conclusion of each module. (Mandatory)
8.	Elective Activities	Student-selected learning experiences for professional or personal enrichment.	As and where required

*Under the final year MBBS clerkship model, every student is expected to undertake at least three full-day rotations, from (8:00 AM to 8:00 PM), within the respective clinical department.

Monitoring and Quality Assurance

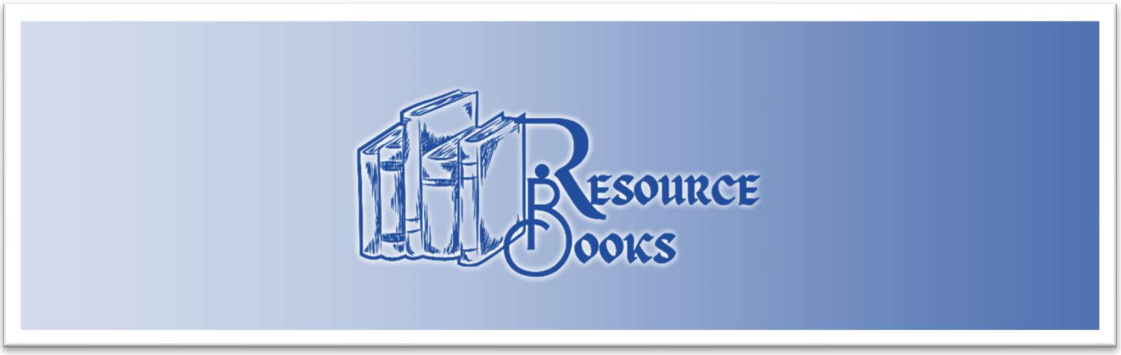
Institutions are responsible for ensuring that the implementation of the manual upholds educational standards and learning outcomes. Monitoring mechanisms may include internal audits, student evaluations, peer reviews, and regular reporting to the curriculum committee. The ME and DE departments should facilitate continuous quality improvement through data analysis, reflection, and dissemination of best practices.

This manual is both a guide and a shared commitment to excellence in medical and dental education. It emphasizes that *outcome matters*, integration strengthens learning, and collaboration enhances quality. Through collective efforts of faculty, curriculum planners, and institutional leadership, the curriculum can truly help students rise above, becoming competent, ethical, and socially accountable professionals ready to serve their communities.

Prof. Dr. Sumera Ehsan
HOD Medical Education
University of Health Sciences Lahore


04
Section


UNIVERSITY OF HEALTH SCIENCES LAHORE
UHS
List of
Resources



Anatomy

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- Snell's Clinical Neuroanatomy – Richard S. Snell – 9th ed – Wolters Kluwer / Lippincott Williams & Wilkins – 2024
- Langman's Medical Embryology – Sadler T.W. – 12th ed – Lippincott Williams & Wilkins (Wolters Kluwer) – 2012
- Medical Histology: Text & Atlas – Siddiqui L.H. – 8th ed – Paramount Books (Karachi)
- General Anatomy – Siddiqui L.H. – 6th ed – Paramount Books (Karachi)
- Anatomy: Regional and Applied – Last R.J. – 11th ed – Churchill Livingstone (Edinburgh) – 2006

Physiology

- Guyton and Hall Textbook of Medical Physiology – John E. Hall & Michael E. Hall – 14th ed – Elsevier – 2021
- Ganong's Review of Medical Physiology – Kim E. Barrett, Susan M. Barman et al. – 27th ed – McGraw-Hill – 2024

Biochemistry

- Harper's Illustrated Biochemistry – Rodwell V.W. – 32nd ed – McGraw-Hill – latest edition
- Lippincott Illustrated Reviews: Biochemistry – Wolters Kluwer – 9th ed – 2025
- Essentials of Medical Biochemistry (Vol 1 & 2) – Mushtaq Ahmed – Vol 1, 9th ed – Nishtar Publications – 2019

Pathology

- Robbins & Cotran Pathologic Basis of Disease – Kumar V., Abbas A.K., Aster J.C. – 11th ed – Elsevier – 2025
- Pocket Companion to Robbins & Cotran Pathologic Basis of Disease – Mitchell R.N., Kumar V., Abbas A.K., Aster J.C. – 10th ed – Elsevier – 2022

- Review of Medical Microbiology & Immunology – Levinson W. – 18th ed – McGraw-Hill – 2024

Pharmacology

- Lippincott Illustrated Reviews: Pharmacology – Whalen K.L., Lerchenfeldt S.M., Giordano C.R. – 8th ed – Wolters Kluwer / Lippincott – 2022
- Katzung's Basic & Clinical Pharmacology – Katzung B.G., Vanderah T.W. – 16th ed – McGraw-Hill – 2024

Forensic Medicine

- Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology – Parikh C.K. – 10th ed – Prince Books (RWP) – 2019
- Principles & Practice of Forensic Medicine – Nasib R. Awan – 2nd ed – Zubair Books (Lahore) – 2018

Community Medicine

- Park's Textbook of Preventive and Social Medicine – K. Park – 27th ed – Banarsidas Bhanot Publishers
- Public Health and Community Medicine – Muhammad Irfanullah Siddiqui & Shah Ilyas Ansari – 8th ed – Time Publishers

Family Medicine

- Oxford Handbook of General Practice – Chantal Simon & Hazel Everitt – 5th ed – Oxford University Press – 2020

Behavioural Sciences

- Handbook of Behavioural Sciences – Mowadat H. Rana – 3rd ed – 2016

Ophthalmology

- Kanski's Clinical Ophthalmology: A Systematic Approach – John F. Salmon – 10th ed – Elsevier
- Parsons' Diseases of the Eye – Ramanjit Sihota & Radhika Tandon – 24th ed – Elsevier

ENT

- Diseases of Ear, Nose & Throat – P.L. Dhingra – 8th ed
- Hall & Colman's Diseases of the Ear, Nose and Throat – 15th ed
- Logan Turner's Diseases of Nose, Throat and Ear – 11th ed

Medicine

- Davidson's Principles and Practice of Medicine – 24th ed – Elsevier – 2022
- Kumar & Clark's Clinical Medicine – Parveen Kumar & Michael Clark – 9th ed – Elsevier – 2017
- ABC of Dermatology – 7th ed – Wiley-Blackwell – 2021 (Dermatology)

Clinical Skills

- Hutchison's Clinical Methods: An Integrated Approach to Clinical Practice – 24th ed – Elsevier – 2022
- MacLeod's Clinical Examination – 15th ed – Elsevier – 2023

Surgery

- Bailey & Love's Short Practice of Surgery – 28th ed – CRC Press – 2023

Obstetrics and Gynaecology

- Gynaecology by Ten Teachers – edited by Ash Monga & Stephen Dobbs – 19th ed – CRC Press – 2011
- Obstetrics by Ten Teachers – Louise C. Kenny & Fergus McCarthy (Editors) – 21st ed – CRC Press – 2024

Paediatrics

- Nelson Textbook of Pediatrics – Robert M. Kliegman & Joseph W. St. Geme III – 22nd ed – Elsevier
- Basis of Pediatrics – Pervez Akbar Khan – 11th ed

Islamiyat & Pakistan Studies

- Standard Islamiyat (compulsory) for B.A, BSc, MA, MSc, MBBS by Prof M Sharif Islahi.
- Pakistan Studies (compulsory) by Mian Muhammad Ashraf


05
Section


UNIVERSITY OF HEALTH SCIENCES LAHORE
UHS
List of
Abbreviations

LIST OF ABBREVIATIONS

Abbreviations	Subjects
A	Anatomy
ABCDE	Airway, Breathing, Circulation, Disability, Exposure
ABG	Arterial Blood Gas
ACS	Acute Coronary Syndromes
Ag	Aging
AKI	Acute Kidney Injury
ALT	Alanine Transaminase
AMI	Acute Myocardial Infarction
AMP	Adenosine Monophosphate
ANA	Antinuclear Antibody
ANCA	Antineutrophil Cytoplasmic Antibodies
ANS	Autonomic Nervous System
AO	Association of Osteosynthesis
APTT	Activated Partial Thromboplastin Clotting Time
ARDS	Acute Respiratory Distress Syndrome
ARVC	Arrhythmogenic Right Ventricular Cardiomyopathy
ASD	Atrial Septal Defect
AST	Aspartate Aminotransferase
ATLS	Advanced Trauma Life Support
Au	Autopsy
AUC	Area Under The Curve
AV	Atrioventricular
B	Biochemistry
BhS	Behavioral Sciences
BHU	Basic Health Unit
BSL	Biological Safety Level
C	Civics
C-FRC	Clinical-Foundation Rotation Clerkship
C. burnetii	*Coxiella burnetii*
C. neoformans	Cryptococcus neoformans

C. pneumoniae	*Chlamydia pneumoniae*
C. psittaci	*Chlamydia psittaci*
C. trachomatis	*Chlamydia trachomatis*
CA	Cancer
CABG	Coronary Artery Bypass Grafting
CAD	Coronary Artery Disease
CBC	Complete Blood Count
CCR5	Cysteine-Cysteine Chemokine Receptor 5
CD31	Cluster of Differentiation 31
CD34	Cluster of Differentiation 34
CD4	Clusters of Differentiation 4
CF	Cystic Fibrosis
CK	Creatine Kinase
CK	Creatine Kinase
CLED	Cystine Lactose Electrolyte Deficient
CLL	Chronic Lymphocytic Leukemia
CM	Community Medicine
CML	Chronic Myelogenous Leukemia
CMV	Cytomegalovirus
CNS	Central Nervous System
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CODIS	Combined Dna Index System
COPD	Chronic Obstructive Pulmonary Disease
COVID-19	Corona Virus Disease 2019
COX	Cyclooxygenase
CPR	Cardio Pulmonary Resuscitation
CR	Clinical Rotation
CRP	C- Reactive Protein
CSF	Cerebrospinal Fluid
CT	Computed Tomography
CT	Computerized Tomography
CV	Cardiovascular
CVA	Cerebral Vascular Accident

CVDs	Cardiovascular Diseases
CVS	Cardiovascular System
D. medinensis	Dracunculus Medinensis
DALY	Disability-Adjusted Life Year
DCIS	Ductal Carcinoma *in situ*
DCM	Dilated Cardiomyopathy
DCMLS	Dorsal Column Medial Lemniscus System
DLC	Differential Leukocyte Count
DMARDs	Disease-modifying antirheumatic drugs
DNA	Deoxy Ribonucleic Acid
DOTS	Directly Observed Treatment Short-course
DTP	Diphtheria, Tetanus, Pertussis
DVI	Disaster Victim Identification
DVT	Deep Vein Thrombosis
E. coli	*Escherichia coli*
ECF	Extra Cellular Fluid
ECG	Electrocardiography
ECG	Electocardiogram
ECP	Emergency contraceptive pills
ED50	Median Effective Dose
EEG	Electroencephalogram
EIA	Enzyme Immunoassay
ELISA	Enzyme Linked Immunosorbent Assay
EnR	Endocrinology & Reproduction
ENT	Ear Nose Throat
EPI	Expanded Programme on Immunization
ER	Emergency Room
F	Foundation
FAST	Focused Assessment with Sonography in Trauma
FEV1	Forced Expiratory Volume 1
FM	Family Medicine
For	Forensics Medicine
FPIA	Fluorescent Polarization Immunoassay
FS	Forensic Serology

FSc	Forensic Science
FVC	Forced Vital Capacity
GCS	Glasgow Coma Scale
GFR	Glomerular Filtration Rate
GIT	Gastrointestinal tract
GL-MS	Gas Liquid Mass Spectrometry
GLC	Gas Liquid Chromatography
GLP	Good Laboratory Practice
GMP	Guanosine Monophosphate
GO	Gynecology and Obstetrics
GP	General Practitioner
GPE	General Physical Examination
GTO	Golgi Tendon Organ
Gynae & Obs	Gynecology and Obstetrics
H & E	Hematoxylin and Eosin
H. influenzae	*Haemophilus influenzae*
H. pylori	*Helicobacter pylori*
HAI	Healthcare Associated Infections
HbC	Hemoglobin C
HbS	Sickle Hemoglobin
HbSC	Hemoglobin Sickle C Disease
HCL	Hydrochloric Acid
HCM	Hypertrophic Cardiomyopathy
HHV	Human Herpesvirus
HIT	Hematopoietic, Immunity and Transplant
HIV	Human Immunodeficiency Virus
HL	Hematopoietic & Lymphatic
HLA	Human Leukocyte Antigen
HMP	Hexose Monophosphate
HNSS	Head & Neck and Special Senses
HPLC	High Pressure Liquid Chromatography
ICF	Intra Cellular Fluid
ID	Infectious Diseases
IE	Infective Endocarditis

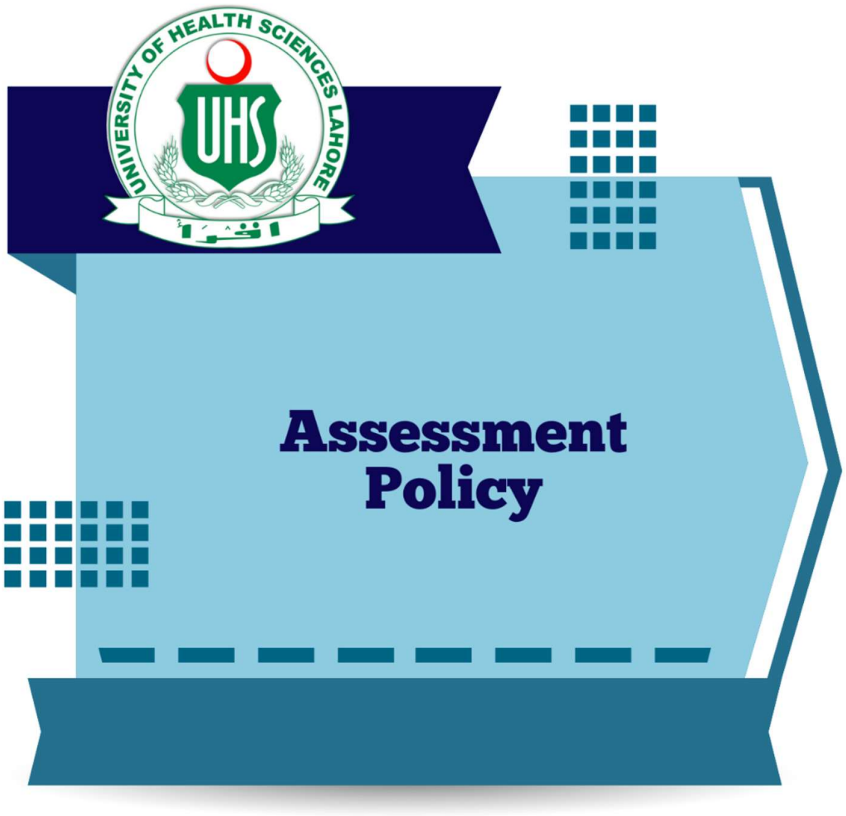
IL	Interleukin
ILD	Interstitial Lung Disease
IN	Inflammation
INR	International Normalized Ratio
INSTIs	Integrase Strand Transfer Inhibitors
IPV	Inactivated Poliovirus Vaccine
IUD	Intrauterine Device
IUGR	Intra Uterine Growth Restriction
JVP	Jugular Venous Pulse
L	Law
LD50	Median Lethal Dose
LDH	Lactate Dehydrogenase
LSD	Lysergic acid diethylamide
M	General Medicine
MALT	Mucosa Associated Lymphoid Tissue
MBBS	Bachelor of Medicine, Bachelor of Surgery
MCH	Mean corpuscular hemoglobin
MCHC	Mean Corpuscular Hemoglobin Concentration
MCV	Mean Corpuscular Volume
MHO 2001	Mental Health Ordinance 2001
MoA	Mechanism of action
MRI	Magnetic resonance imaging
MS	Musculoskeletal
MSD	Musculoskeletal disorders
MSDS	Minimum Service Delivery Standards
MSK	Musculoskeletal
N	Neoplasia
NEAA	Non-Essential Amino Acids
NK cells	Natural Killer Cells
NMJ	Neuro Muscular Junction
NNRTIs	Non-nucleoside Reverse Transcriptase Inhibitors
NRTIs	Nucleoside Reverse Transcriptase Inhibitors
NS	Neurosciences
NSAIDs	Non-steroidal Anti-Inflammatory Drugs

O	Ophthalmology
OA	Osteoarthritis
OPC	Organophosphate
OPV	Oral poliovirus vaccine
Or	Orientation
Orth	Orthopaedic
P	Physiology
P. jiroveci	*Pneumocystis jiroveci*
Pa	Pathology
PAD	Peripheral Artery Disease
PAF	Platelet Activating Factor
PBL	Problem Based Learning
PCI	Percutaneous Coronary Intervention
PCR	Polymerase Chain Reaction
PDA	Patent Ductus Arteriosus
PDGF	Platelet Derived Growth Factor
Pe	Pediatrics
PEM	Protein Energy Malnutrition
PERLs	Professionalism, Ethics, Research, Leadership
PET	Positron Emission Tomography
Ph	Pharmacology
pH	potential Hydrogen
PI	Personal Identity
PID	Pelvic inflammatory disease
PIs	Protease in hibitors
PMC	Pakistan Medical Commission
PMDC	Pakistan Medical and Dental Council
PMI	Post-Mortem Interval
PNS	Peripheral Nervous System
PPD	Paraphenylenediamine
PPE	Personal Protective Equipment
Psy	Psychiatry
PT	Prothrombin Time
PVC	Premature Ventricular Contraction

PVD	Peripheral Vascular Diseases
QALY	Quality-Adjusted Life Year
QI	Quran and Islamiyat
R	Renal
Ra	Radiology
RA	Rheumatoid Arthritis
RBCs	Red Blood cells
RCM	Restrictive Cardiomyopathy
RDA	Recommended Dietary Allowance
Re	Respiratory
RF	Rheumatoid factor
RFLP	Restriction Fragment Length Polymorphism
Rh	Rheumatology
RHC	Rural Health Center
RIA	Radioimmunoassay
RMP	Resting Membrane Potential
RNA	Ribonucleic Acid
RTA	Road Traffic Accident
S	General Surgery
S. pneumonia	*Streptococcus pneumoniae*
SA	Sinoatrial
SCC	Squamous-cell carcinoma
Se	Sexology
Sec	Section
SIDS	Sudden Infant Death Syndrome
SLE	Systemic Lupus Erythematosus
SOP	Standard Operating Procedure
TB	Tuberculosis
TBI	Traumatic Brain Injury
TCA	Tricarboxylic acid cycle
TCBS	Thiosulphate Citrate Bile salts Sucrose
TD50	Median Toxic Dose
TGA	Transposition of the Great Arteries
Th	Thanatology

TLC	Thin Layer Chromatography
TNF	Tumor Necrotic Factor
TNM	Tumour, Node, Metastasis
TOF	Tetralogy of Fallot
Tox	Toxicology
Tr	Traumatology
TSI	Triple Sugar Iron
USG	Ultrasonography
UTI	Urinary Tract Infections
UV	Ultraviolet
VAP	Ventilator-Associated Pneumonia
Vd	Volume of Distribution
VEGF	Vascular Endothelial Growth Factor
VSD	Ventricular Septal Defect
W. bancroft	*Wuchereria bancroft*
WBCs	White Blood Cells
WHO	World Health Organization
ZN Staining	Ziehl-Neelsen Staining


06
Section


UNIVERSITY OF HEALTH SCIENCES LAHORE
UHS
Assessment
Policy

Regulations:

1. Professional examination shall be open to any student who: -

    a. has been enrolled/registered and completed one academic year preceding the concerned professional examination in a constituent/affiliated college of the University.
    b. has his/her name submitted to the Controller of Examinations, for the purpose of examination, by the Principal of the college in which he / sheis enrolled & is eligible as per all prerequisites of the examination.
    c. has his/her marks of internal assessment in all the Blocks/Clinical Clerkships sent to the Controller of Examinations through office of the Principal of the concerned college, at the end of each Block/Clinical Clerkships, as well as at the conclusion of the academic session along with the admission form for the professional examination.
    d. Has been certified by the principal of his/her college:
        (i) of good character;
        (ii) of having attended not less than cumulative 75%* of the full course of lectures delivered, practical and clinical rotations conducted in the particular academic session, while maintaining 75 % attendance in each Block/Clinical Clerkship,
        (iii) of having appeared at the Block/Clinical Clerkship Examinations conducted by the college of enrolment with at least 50 % marks* in each Block/Clinical Clerkship examination, as well as in aggregate score of all Blocks/Clinical Clerkships examinations for the concerned year;

2. Written/Theory paper in all Professional Examinations in Modular Integrated MBBS or BDS Curricula shall consist of MCQs alone, with effect from Annual 2026 Examinations. (Ref: No. UHS/REG-25/2379, dated 17.11.2025)
3. The minimum number of marks required to pass the professional examination for each Block/Clinical Clerkship shall be fifty percent (50%) in Written and fifty percent (50%) in the 'Oral/Practical/Clinical' examinations and fifty percent (50%) in aggregate, independently and concomitantly, at one and the same time.
4. A candidate failing in one or more Blocks/Clinical Clerkships in the annual examination shall be provisionally allowed to join the next professional class till the commencement

of supplementary examinations. The candidate, however, shall have to pass the failed Block/s or Clinical Clerkship in this supplementary examination failing which he / she shall be detained in the professional year. Under no circumstances, a candidate shall be promoted to the next professional class till he/she has previously passed all the Blocks/Clinical Clerkships in the preceding professional examination.

If a student appears in the Supplementary Examination for the first time as he/she did not appear in the annual examination for any reason and failed in any Block/Clinical Clerkship in the Supplementary Examination, he/she will be detained in the same class and will not be promoted to the next class.

**Notification No.UHS/REG-25/2351 Dated 13-11-2025*

5. Only one annual and one supplementary of each Professional Examination shall be allowed in a particular academic session. However, in exceptional situations, i.e., national calamities, war or loss of solved answer books in case of accident, special examination may be arranged after having observed due process of law. This will require permission of relevant authorities, i.e., Syndicate and Board of Governors.
6. Any student who fails to clear the First or Second Professional MBBS / First Professional BDS Examination, in four consecutive attempts, each, inclusive of both availed as well as un-availed attempts, after becoming eligible for the examination, and has been expelled on that account shall not be eligible for continuation of studies and shall not be eligible for admission as a fresh candidate in either MBBS or BDS.
7. The application for admission of each candidate to the professional examination shall be submitted to the Controller of Examination, through the Principal of the College, on the prescribed format, as per notified schedule, accompanied by the prescribed fee.
8. The candidates shall pay their fee through the principal of their respective Colleges, who shall forward the Examination Forms along with the duly paid challan of the examination fee generated from the Online Examination Form.
9. The continuous internal assessment through the Block/Clinical Clerkship, conducted by the college of enrollment, shall carry 20% weightage in the total allocated marks for the concerned Block/Clinical Clerkship in the Professional Examination conducted by the university. The score will be equally distributed to the Written and “Oral/Practical/Clinical” Examinations.
10. The marks of internal assessment through Blocks/Clinical Clerkships examination and attendance record shall be submitted to Controller of Examinations, along with question

papers and keys for the Block/Clinical Clerkship examination, within two weeks of completion of each Blocks/Clinical Clerkships examination.

Further, parent-teacher meetings shall be arranged by the colleges after every Block/Clinical Clerkship examination to share feedback on the progress of students with their parents. Minutes of parent teacher meetings, academic timetables/schedule of Blocks/Clinical Clerkships and academic year study guides shall be submitted to the Department of Medical Education UHS, as well.

11. It is emphasized that fresh internal assessment or a revision of assessment for supplementary examination shall not be permissible. However, a revised internal assessment for the detained students can be submitted. The internal assessment award in a particular year will not be decreased subsequently detrimental to the detainee candidate. A proper record of the continuous internal assessment shall be maintained by the concerned department/s in the colleges.
12. The colleges may arrange remedial classes and one re-sit for each Block/Clinical Clerkship examination after fulfillment of prescribed requirements given below. The remedial classes and re-sit examination can be conducted during summer vacation/weekends, before or during preparatory leave for the concerned professional examination, subject to the following conditions:

Block/Clinical Clerkship Attendance	Remedial Classes
<75%, ≥ 50% (50-74%)	i. Principal of the college may conduct remedial classes and submit result to the Examination Department, UHS, independently. ii. Principal of the college may conduct remedial classes for detained students, who have short attendance in the first Block/Clinical Clerkship of a professional year after detention. The college may submit record of the remedial classes to the Examination Department, UHS, independently.
<50%	i. Principal of the college may submit attendance record of such students to Department of Medical Education, UHS, seeking permission for conduct of remedial Classes. The conduct of remedial classes in such cases shall be arranged only after permission from the Competent Authority in the university.

	ii. The colleges shall also have to provide the university with the reasons submitted by the candidates for short attendance along with documentary evidence for the same duly verified by the principal. iii. The following shall be considered as valid reasons for short attendance of the students for consideration of permission for remedial classes: • Illness/accident/surgery of the student or sickness/death of an immediate relative/being afflicted by a natural/man-made calamity or disaster or detained students (missed the first Block/Clinical Clerkship of the year), students clearing their preceding professional examination in supplementary, or late admitted students who have been permitted for joining by UHS

Marks in Block/ Clinical Clerkship Examination	**Re-sit Examination**
<50% Marks/ Absence from Block /Clinical Clerkship Examination	i. Principal of the college may submit record of such students to Department of Medical Education, UHS, seeking permission for conduct of re-sit examination. ii. The conduct of re-sit examination in all cases shall be arranged only after permission from the Competent Authority in the university. iii. The colleges shall also have to provide the university with the reasons submitted by the candidates for absence from the Block/Clinical Clerkship examination, along with documentary evidence for the same duly verified by the principal. iv. The following shall be considered as valid reasons for absence of a student from Block/Clinical Clerkship examination, and for consideration of permission for re-sit examination: • Illness/accident/surgery of the student or sickness/death of an immediate relative/being afflicted by a natural/man-made calamity or disaster or detained students (missed the first Block/Clinical Clerkship of the year), students clearing their

	preceding professional examination in supplementary, or late admitted students who have been permitted for joining by UHS

13. The following policy shall be applicable for transition of students From Traditional Subject-Based Scheme to the Modular Integrated Curriculum Scheme:
    i. The students who fail in all subjects of the professional examination, either by taking the examination or due to non-appearance, and are detained in the respective professional year, shall follow the Modular Integrated Curriculum Scheme for their teaching and assessment.
    ii. The students who fail in one or more subjects but not all the subjects of a professional examination, either by taking the examination or due to non-appearance, and are detained in the respective professional year, shall attend classes with students following the Modular Integrated Curriculum Scheme, but they will be examined in the failed subject/s according to their parent scheme, i.e., the Traditional Subject-Based Curriculum Scheme.

MBBS YEAR-1						
Subject	**Theory**		**Practical**			**Total**
Block 1 **Modules** (Foundation-I + Hematopoietic and Lymphatic)	Part I MCQs (140)	140 Marks	Practical /Clinical Examination	011 OSPE 02 OSCE 03 OSVE	**Marks** 88 10 42	**350**
	Internal Assessment 10%	35 Marks	Internal Assessment 10%	35 Marks		
	Total	**175**	Total	**175**		
Block 2 **Modules** (Musculoskeletal & Locomotion-I)	Part I MCQs (140)	140 Marks	Practical /Clinical Examination	11 OSPE 02 OSCE 03 OSVE	**Marks** 88 10 42	**350**
	Internal Assessment 10%	35 Marks	Internal Assessment 10%	35 Marks		
	Total	**175**	Total	**175**		
Block 3 **Modules** (Cardiovascular-I & Respiratory-I)	Part I MCQs (140)	140 Marks	Practical /Clinical Examination	11 OSPE 02 OSCE 03 OSVE	Marks 88 10 42	**350**
	Internal Assessment 10%	35 Marks	Internal Assessment 10%	35 Marks		
	Total	**175**	Total	**175**		
					Total Marks:	**1050**

MBBS YEAR-2						
Block 4 **Modules** (GIT & Nutrition-I + Renal-I)	Part I MCQs (140)	140 Marks	Practical /Clinical Examination	11 OSPE 02 OSCE 03 OSVE	Marks 88 10 42	**350**
	Internal Assessment 10%	35 Marks	Internal Assessment 10%	35 Marks		
	Total	**175**	Total	**175**		
Block 5 **Modules** (Endocrinology & Reproduction-I + Head & Neck, Special Senses)	Part I MCQs (140)	140 Marks	Practical /Clinical Examination	11 OSPE 02 OSCE 03 OSVE	Marks 88 10 42	**350**
	Internal Assessment 10%	35 Marks	Internal Assessment 10%	35 Marks		
	Total	**175**	Total	**175**		
Block 6 **Modules** (Neurosciences-I + Inflammation)	Part I MCQs (140)	140 Marks	Practical /Clinical Examination	11 OSPE 02 OSCE 03 OSVE	Marks 88 10 42	**350**
	Internal Assessment	35 Marks	Internal Assessment	35 Marks		
	Total	**175**	Total	**175**		
				Total Marks:		**1050**
Islamic Studies/ Civics and PakistanStudies	**Islamic Studies/Civics** 3 LEQs of 20 marks each			60 Marks		**100***
	Pakistan Studies 2 LEQs of 20 marks each			40 Marks		
			Total	**100**		

MBBS YEAR-3						
Subject	**Theory**		**Practical**			**Total**
BLOCK 7 **Modules** (Foundation-II + Hematopoietic, Immunity & Implant + General & Clinical Pharmacology + Forensic Medicine & Toxicology-I)	Part I MCQs (140)	140 Marks	Practical / Clinical Examination	11 OSPE 01 OSCE 03 OSVE	Marks 88 10 42	**350**
	Internal Assessment 10%	35 Marks	Internal Assessment 10%	35 Marks		
	Total	**175**	Total	**175**		
BLOCK 8 **Modules** (Neoplasia + Infectious Diseases + Musculoskeletal & Locomotion-II + Forensic Medicine & Toxicology- II)	Part I MCQs (90)	90 Marks	Practical / Clinical Examination	11 OSPE 01 OSCE 03 OSVE	Marks 88 10 42	**350**
			Internal Assessment 10%	35 Marks		
	Total	**175**	Total	**175**		
BLOCK 9 **Modules** (Cardiovascular-II + Respiratory II + Community Medicine & Public Health + Family Medicine I + Forensic Medicine & Toxicology- III)	Part I MCQs (140)	140 Marks	Practical / Clinical Examination	11 OSPE 01 OSCE 03 OSVE	Marks 88 10 42	**350**
	Internal Assessment 10%	35 Marks	Internal Assessment 10%	35 Marks		
	Total	**175**	Total	**175**		
					Total Marks:	**1050**

MBBS YEAR-4						
BLOCK-X						
Modules	**Theory**		**Practical**			**Total Marks**
Community Medicine & Family Health-II, GIT & Nutrition-II, Eye and ENT-I	MCQs (140)	140 Marks	OSCE	10 stations x 8 marks=80	140 Marks	**280 Marks**
			OSVE	02 Stations x 10 marks=20		
			Short case Eye-I	1 short case x 20 marks=20		
			Short case ENT-I	1 short case x 20 marks=20		
Internal Assessment (10%) Theory		35 Marks	Internal Assessment (10%) Practical		35 Marks	**70 Marks**
Total=350 Marks						
BLOCK-XI						
Modules	**Theory**		**Practical**			**Total Marks**
Neuroscience-II, Psychiatry & Behavioural Sciences, Renal-II, Eye and ENT-II	MCQs (140)	140 Marks	OSCE	10 stations x 8 marks=80	140 Marks	**280 Marks**
			OSVE	02 Stations x 10 marks=20		
			Short case Eye-II	1 short case x 20 marks=20		
			Short case ENT-II	1 short case x 20 marks=20		
Internal Assessment (10%) Theory		35 Marks	Internal Assessment (10%) Practical		35 Marks	**70 Marks**
Total=350 Marks						
BLOCK-XII						
Module	**Theory**		**Practical**			**Total Marks**
Endocrine and Reproduction-II, Dermatology, Eye and ENT-III	MCQs (140)	140 Marks	OSCE	10 stations x 8 marks=80	140 Marks	**280 Marks**
			OSVE	02 Stations x 10 marks=20		
			Short case Eye-III	1 short case x 20 marks=20		

			Short case ENT-III	1 short case x 20 marks=20		
Internal Assessment (10%) Theory		35 Marks	Internal Assessment (10%) Practical		35 Marks	**70 Marks**
Total=350 Marks						
GRAND TOTAL=1050 Marks						

ANNUAL EXAMINATION (MBBS YEAR-04)			
Annual Theory Exam Scheme			
Theory exam	**MCQs** *(1 mark each)*	**Marks**	**Internal Assessment**
Paper 1 (BLOCK X)	140	140 marks	35 marks
Paper 2 (BLOCK XI)	140	140 marks	35 marks
Paper 3 (BLOCK XII)	140	140 marks	35 marks
Total Marks Theory=525 Marks			
Annual Practical Exam Scheme			
Clinical Skill Exam	**OSCE & OSVE**	**Marks**	**Internal Assessment**
PS1: General Clinical Skills	**OSCE:** 10 Stations x 8 marks = 80 marks **OSVE:** 04 Stations x 15 marks = 60 marks	140 marks	35 marks
PS2: EYE	**OSCE:** 10 Stations x 8 marks = 80 marks **Short case:** 03 x 20 marks = 60 marks	140 marks	35 marks
PS3: ENT	**OSCE:** 10 Stations x 8 marks = 80 marks **Short case:** 03 x 20 marks = 60 marks	140 marks	35 marks
Total Marks Practical=525 Marks			
GRAND TOTAL=1050 Marks			

Table of Specification (MBBS Year-04)

THEORY		
Block-X		
Modules	**MCQs** *(1 mark each)*	**Marks**
Community Medicine-II & Family health-II	25 + 15	40
GIT & Nutrition-II	35 + 5	40
Eye-I	30	30
ENT-I	30	30
Total	140 MCQs	**140 Marks**
Block-XI		
Modules	**MCQs** *(1 mark each)*	**Marks**
Neuroscience-II	38	38
Psychiatry & Behavioural Sciences	20+07	27
Renal-II	25	25
Eye-II	25	25
ENT-II	25	25
Total	140 MCQs	**140 Marks**
Block-XII		
Modules	**MCQs** *(1 mark each)*	**Marks**
Endocrine & Reproduction-II	47	47
Dermatology	23	23
Eye-III	35	35
ENT-III	35	35
Total	140 MCQs	**140 Marks**

PRACTICAL							
Clinical Skill Exam		**Assessment tool**	**Block X**	**Block XI**	**Block XII**	**Total Marks**	**Total**
PS1	**General clinical skills**	OSCE *(8 marks each)*	3 (Community Medicine & family health-II + GIT & nutrition-II)	4 (Neuroscience-II + Psychiatry & behavioural sciences + Renal-II)	3 (Endocrine and reproduction-II + Dermatology)	10 x 80 marks=80	**140 Marks**
		OSVE *(15 marks each)*	2 (Research-PERL + GIT & nutrition-II)	1 (Neuroscience-II + Psychiatry & behavioural sciences + Renal-II)	1 (Endocrine and reproduction-II + Dermatology)	4 x 15 marks= 60	
PS2	**EYE**	OSCE *(8 marks each)*	4 Eye-I	3 Eye-II	3 Eye-III	10 x 80 marks=80	**140 Marks**
		Short case *(20 marks each)*	1 Eye-I	1 Eye-II	1 Eye-III	3 x 20 marks =60	
PS3	**ENT**	OSCE *(8 marks each)*	3 ENT-I	3 ENT-II	4 ENT-III	10 x 80 marks=80	**140 Marks**
		Short case *(20 marks each)*	1 ENT-I	1 ENT-II	1 ENT-III	3 x 20 marks =60	

INTERNAL ASSESSMENT

It shall constitute 20% of the total assessment at the end of the academic year.

	Scoring Parameter	Weightage (Percentage)
Theory 10 %	Attendance	75% attendance -1 % >85% attendance -2 %
	Block Exam	5 %
	Continuous assessment	3 %
Practical 10 %	Attendance	75% attendance -1 % >85% attendance -2 %
	Block Exam (OSCE / OSPE / OSVE / Short case)	5 %
	Portfolio-clinical logbooks (CFRC / PERLs / Clinical Clerkship)	3 %

***Remedial / Re-sit Exam Policy**

<table>
<tr><th colspan="8">MEDICINE CLERKSHIP</th></tr>
<tr><th colspan="4">Theory</th><th colspan="3">Clinical skills</th><th>Total Marks</th></tr>
<tr><td rowspan="2">Paper 1 MCQs</td><td rowspan="2">100 Marks</td><td rowspan="4">200 Marks</td><td>OSCE</td><td>10 stations x 5 marks= 50 marks</td><td rowspan="4">200 Marks</td><td rowspan="4">400 Marks</td></tr>
<tr><td>OSVE</td><td>02 Stations x 10 marks= 20 marks</td></tr>
<tr><td rowspan="2">Paper 2 MCQs</td><td rowspan="2">100 Marks</td><td>Short case</td><td>02 Short case x 30 marks = 60 marks</td></tr>
<tr><td>Long case</td><td>01 Long case x 70 marks = 70 marks</td></tr>
<tr><td colspan="2">Internal assessment (10%) Theory</td><td>50 marks</td><td colspan="2">Internal assessment (10%) Practical</td><td>50 marks</td><td>100 Marks</td></tr>
<tr><td colspan="8">Total=500 Marks</td></tr>
<tr><th colspan="8">SURGERY CLERKSHIP</th></tr>
<tr><th colspan="4">Theory</th><th colspan="3">Clinical skills</th><th>Total Marks</th></tr>
<tr><td rowspan="2">Paper 1 MCQs</td><td rowspan="2">100 Marks</td><td rowspan="4">200 Marks</td><td>OSCE</td><td>10 stations x 5 marks= 50 marks</td><td rowspan="4">200 Marks</td><td rowspan="4">400 Marks</td></tr>
<tr><td>OSVE</td><td>02 Stations x 10 marks= 20 marks</td></tr>
<tr><td rowspan="2">Paper 2 MCQs</td><td rowspan="2">100 Marks</td><td>Short case</td><td>02 Short case x 30 marks = 60 marks</td></tr>
<tr><td>Long case</td><td>1 Long case x 70 marks = 70 marks</td></tr>
<tr><td colspan="2">Internal assessment (10%) Theory</td><td>50 marks</td><td colspan="2">Internal assessment (10%) Practical</td><td>50 marks</td><td>100 Marks</td></tr>
<tr><td colspan="8">Total=500 Marks</td></tr>
<tr><th colspan="8">OBSTETRIC & GYNAECOLOGY CLERKSHIP</th></tr>
<tr><th colspan="4">Theory</th><th colspan="3">Clinical skills</th><th>Total Marks</th></tr>
<tr><td rowspan="2">Obstetrics MCQs</td><td rowspan="2">60 Marks</td><td rowspan="3">120 Marks</td><td>OSCE</td><td>08 stations x 5 marks= 40 marks</td><td rowspan="3">120 Marks</td><td rowspan="3">240 Marks</td></tr>
<tr><td>OSVE</td><td>02 Stations x 10 marks= 20 marks</td></tr>
<tr><td>Gynaecology</td><td>60 Marks</td><td>Short case</td><td>2 Short case x 15 marks = 30 marks</td></tr>
</table>

MCQs			Long case	1 Long case x 30 marks = 30 marks		
Internal assessment (10%) Theory		30 marks	Internal assessment (10%) Practical		30 marks	**60 Marks**
Total=300 Marks						
PAEDIATRICS CLERKSHIP						
Theory		**Clinical skills**				**Total Marks**
MCQs (80)	80 Marks	OSCE	08 stations x 5 marks= 40 marks		80 Marks	**160 Marks**
		OSVE	02 Stations x 5 marks= 10 marks			
		Short case	1 Short case x 10 marks = 10 marks			
		Long case	1 Long case x 20 marks = 20 marks			
Internal assessment (10%) Theory	20 Marks	Internal assessment (10%) Practical			20 Marks	**40 Marks**
Total=200 Marks						
GRAND TOTAL=1500 Marks						

INTERNAL ASSESSMENT

It shall constitute 20% of the total assessment at the end of the academic year.

	Scoring Parameter	Weightage (percentage)
Theory 10 %	Attendance	75% attendance -1 % >85% attendance -2 %
	Block Exam	5 %
	Continuous assessment	3 %
Practical 10 %	Attendance	75% attendance -1 % >85% attendance -2 %
	Block Exam	5 %
	Clinical logbooks	3 %

***Remedial / Re-sit Exam Policy**


07
Section


UNIVERSITY OF HEALTH SCIENCES LAHORE
UHS
Institutional
Implementation
Recommendations

RECOMMENDED IMPLEMENTATION SOPs

The implementation of the modular integrated approach requires to be categorical and methodical. It is recommended that the institutes should have an internal hierarchy for the smooth conduction of the educational process and for fine detailing the interpretation of the curricular guidelines.

A few recommended organizational titles and responsibilities are as follows:

YEAR COMMITTEE

- Identify the philosophy for implementing future Curriculum.
- Ensures module requirements ahead of time.
- Any adjustment of schedule if required.
- Liaison with the chairperson of the mentoring program.
- Quality assurance of teaching and learning.
- Hold regular meetings.
- Compliance to schedule and timetable.
- Compliance to proposed internal assessment.
- Oversee completion of Logbooks and Portfolio.
- Oversee the foundation component of C-FRC.
- Ensure student centeredness and feedback from students.
- Develop timetables.
- Analyze the implementation of current curriculum.
- Strategize communication with both faculty and students.

MODULE COMMITEE

- Module committee should be headed by module coordinator.
- The nomination of the 'Module Coordinator' will be based on the maximum content present in the respective module e.g., Musculoskeletal will have a module coordinator from Anatomy.
- The coordinator will develop module team.
- Collaboration and consultation with all the relevant departments.
- Follow the curricular guidelines by the modules provided by UHS.
- Coordinate with the Assessment Cell.
- Arrange regular meetings.
- Develop study guides in collaboration with the Department of Medical Education
- Liaison with the PBL Committee.

PBL COMMITTEE

- PBL committee should be headed by PBL coordinator.
- Responsible for coordination of the PBL meetings
- Responsible for training of tutors by incorporating experiential learning, small group work and critical reflection.
- The tutors must possess both content expertise and group facilitation skills.
- Forwarding the PBL to coordinator year committee / DME for the purpose of Quality assurance
- Ensure the teaching resources available for delivery of PBL.
- Quality assurance visits to the PBL site.
- Coordination with year committee head as well as Director Medical Education.

MENTORING COMMITTEE

- Design a mentorship program by establishing the idea and need for program to increase professional competence of students and interest in research and post-graduation.
- A senior faculty member with a keen interest in medical education and student affairs can chair the committee.
- Members of the committee include faculty from basic as well as clinical side voluntarily.
- Training of volunteer mentors through a workshop
- Assigning of mentorship groups (10-12 mentees per mentor)
- Build up a professional network for the mentees and personal growth.
- Improve their level of performance and satisfaction.
- Build relationships with colleagues and feel part of the community.
- Manage the integration of job, career, and personal goals.
- Regular monitoring of program and providing support to mentorship groups
- Evaluation every 6 months based on feedback from the faculty and students and individual performance of students.

DEPARTMENT OF MEDICAL EDUCATION

- The department of medical education serves as a backbone to provide effective and high-quality education to both undergraduate and post graduate medical and dental students.
- The Department of Medical Education needs to play the integral role in the implementation and adoption of **Curriculum 2K23** *version 2.0*.
- DME will be overall responsible for the spirals of PERLs & C-FRC.
- DME will be monitoring the portfolio development by the students and the completion of logbook.
- DME will be responsible for developing a mentoring platform.
- Faculty development trainings for mentoring, reflective writing and portfolio development will be undertaken.
- Planning the affective training competency acquisition framework with the academic council will be the most pivotal role.

- Collaboration with other disciplines for the training sessions for different aspects of Professionalism, Ethics, Research and Leadership skills.

GENERAL RESPONSIBILITIES OF DME

- Contribute and design, train the trainer activities which fulfil the need for undergraduate and post graduate training.
- Shape and develop medical education research activities of the college.
- Facilitating & organizing workshops, seminars, symposia & conferences
- Conducting CME activities to leverage culture of awareness, journal club.
- Networking by representing the college, when needed, in national /international meetings or conferences.
- Student counseling
- Supervising students' academic progress
- Academic Committees Development and Support
- Staff Support and Development
- Curriculum development and reform
- Collaborate with curriculum committee and faculty members to develop quality instructional material such as modules, lecture, or study guides.
- Standard Operating Procedures for DME development
- Skill lab management
- Assessment analysis which includes blue printing, pre-exam review, item analysis and standard setting and provide feedback to concerned faculty and students on the learning outcome achievement.
- Develop and conduct periodical review of process of the program, learning and teaching activities, and assessment process.
- Identify opportunities for use of IT in teaching and learning, assessment and faculty development activities.
- Exam Cell management
- Quality Assurance Cell management
- Record keeping of departmental data.
- Leadership and management

- Participation in overall planning and management of teaching in liaison with the departments

INSTRUCTIONAL STRATEGIES

Delivery of a curriculum also needs a diversity of educational vernacular for the different learning styles. Following are a few of the recommended instructional strategies. It is advised that at least **three different methods of instructions** should be adopted in the institutional planning. This will enable the diversity of learning patterns to be facilitated.

Large Group Interactive Session (LGIS)

Lecture format is the most widely used approach to teaching especially in a large class size with average attention span of 20-30 mins. Interactive lecturing involves a two-way interaction between the presenter and the participants. Interactive methods like brainstorming, buzz group, simulation, role play, and clinical cases can be used.

Significance of its usage

- Relaxed environment, diverse opinions, active involvement
- Increase attention and motivation.
- Independence and group skills.
- Cost effective.
- Suitable for taking advantage of available audiovisual technologies.

Team based learning (TBL)

TBL is a uniquely powerful form of small group learning. It provides a complete coherent framework for building a flipped course experience. There are four essential elements of TBL which include:

- Teams must be properly formed and managed (5-7 students)
- Getting students ready
- Applying course concepts
- Making students accountable

Significance of its usage

- Students are more engaged.
- Increased excitement in TBL classroom
- Teams outperforms best members.
- Students perform better in final and standardized exams.

Problem based learning (PBL)

It is an instructional student-centered approach in which students work in small groups on a health problem, identifying their own educational needs and being responsible for the acquisition of the knowledge required to understand the scenario.

Significance of its usage

- Teamwork
- Critical evaluation of literature
- Self-directed learning and use of resources
- Presentation skills
- Leadership
- Respect for colleagues' views

Case based learning (CBL)

It is an inquiry structured learning experience utilizing live or simulated patient cases to solve, or examine a clinical problem, with the guidance of a teacher and stated learning objectives.

Significance of its usage

- Induce a deeper level of learning by inculcating critical thinking skills.
- Flexibility on use of case
- Helps students acquire insightful information.
- Stay abreast with novel advancements in healthcare

Tutorials

Tutorial is a class or short series of classes, in which one or more instructors provides intensive instruction on some subject to a small group. Its purpose is to explore students' point of view, allowing time for discussion, and inculcating self-directed, reflective learning skills.

Significance of its usage

- Develop and assess the extent of background knowledge of students, which enables them to properly understand concepts which may not have been understood in lectures.
- Develop problem-solving skills.
- Develop practice of self-learning.
- Reduced time to understand the topic.

Reflective Writing

It is a metacognitive process that occurs before, during and after the situation with the purpose of developing greater understanding of both the self and situation so that future encounters with the situation are informed from previous encounters.

Significance of its usage

- Questioning attitude and new perspectives.
- Areas for change and improvement.
- Respond effectively to new challenges.
- Critical thinking and coping skills

Bedside Teaching

Teaching and learning that occurs with actual patient as the focus. It occurs in wards, emergency departments, operating rooms, and high dependency units.

Significance of its usage

- Stimulus of clinical contact
- Psychomotor skills
- Communication skills
- Language skills
- Interpersonal skills
- Professional attitudes and empathy
- Role modelling

Simulation

Person, device or set of conditions, which attempts to present education and evaluation of problems authentically. The student or trainee is required to respond to the problems as s/he would under natural circumstances.

Significance of its usage

- Safety for patients
- Liberty to make mistakes.
- Manageable/variable complexity of tasks
- Opportunity to develop self-efficacy before real patient encounter.
- Repeatability of tasks
- Learning at different pace is permissible

Skill laboratories

It refers to specifically equipped practice rooms functioning as training facilities offering hands on training for the practice of clinical skills within non-threatening environment prior to their real-life application This applies to both basic clinical skills as well as complex surgical skills.

Significance of its usage

- Controlled, anxiety-free, and risk-free learning environment to students.
- A platform for repeated practice for mastery in relevant clinical skills
- Increase the preparedness of student learners before transitioning to the real hospital setting.
- Build strong communication skills.
- Enable learners to make critical decisions.

Clinical Case based Conference

Clinical Case based conferences allow clinicians and medical students to present difficult case material and include discussions of diagnostic, clinical formulation, and/or treatment issues.

Significance of its usage

- Provides detailed (rich qualitative) information.
- Provides insight for further research.
- Permitting investigation of otherwise impractical (or unethical) situations.

Laboratory Practical

Lab practical involve things like identifying a structure, a type of stain through a microscope, a problem with a preparation, reading biochemical test results and answering safety questions. These simulations allow students to attempt the experiments in the laboratory in a risk-free way that provides the opportunity to make mistakes and learn how to correct them using the immediate feedback generated.

Significance of its usage

- Enhance mastery of subject matter.
- Develop scientific reasoning.
- Develop practical skills.
- Develop teamwork abilities.

Ward Rounds

It is a composite clinical practice to review inpatients' management and progress, to make decisions about further investigations, treatment options and discharge from hospital. It is an opportunity for clinicians, students, and patients to participate in education and training at bedside.

Significance of its usage

- Patient management skills
- History taking
- Physical examination
- Time management skills
- Communication skills

Demonstrations

The demonstration method in teaching can be defined as giving a demo or performing a specific activity or concept. It is a teaching-learning process carried out in a very systematic manner.

Significance of its usage

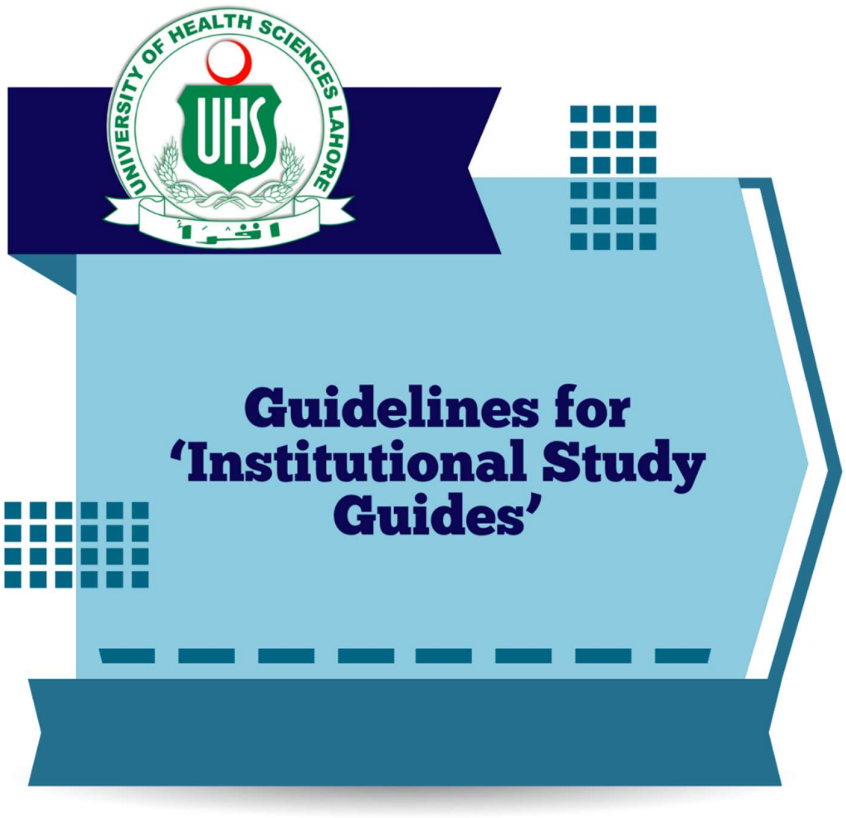
- Promotes learning and correlates theory with practice.
- Sharpens the observation skills.
- Sustain interests in learning environment.
- Helps teacher to evaluate students' response

Case Presentations

It is a teaching method which provides descriptive information about a clinical patient scenario and to share this educational experience with the general medical and scientific community. It prepares students for clinical practice, using authentic clinical cases by linking theory to practice with the help of inquiry-based learning methods.

Significance of its usage

- Cultivate the capacity for critical analysis.
- Judgement and Decision making
- Facilitate creative problem solving.
- Allow students to develop realistic solutions to complex problems


UNIVERSITY OF HEALTH SCIENCES LAHORE
UHS
Guidelines for
'Institutional Study
Guides'

Guidelines for Development of Study Guide for the Faculty & Students

Institutions are advised to develop one study guide for each module of the curriculum.

The study guide should have:

1. **Title page** having the name of the module and the year it is being taught**.**
2. **Table of contents**
3. **List of abbreviation**
4. **Curriculum frame work** This is a comprehensive statement that provides an overview of how various subjects are integrated into different modules on a yearly basis, and it is applicable to all
5. **Introduction to the study guide** The introduction of the study guide should clearly state its purpose and outline the information it conveys, specifically addressing the following questions: What is the main objective of the study guide? What message does it aim to convey? Additionally, it should specify the intended audience for whom the guide was developed
6. **Introduction to module** In the introduction to the module, students are informed of the course name, year number, and the duration of the module. The module is focused on specific systems, such as the cardiovascular system or respiratory system. Students are informed of the relevance of these topics to real-life scenarios, emphasizing the importance of the knowledge they will gain and about end of module assessment.
7. **Module committee** the modular committee includes the coordinator, co-coordinator, and departmental representatives from areas such as internal medicine, surgery, pediatrics, and medical education. Together, they work to create an integrated and current curriculum that supports the educational objectives and prepares students for healthcare careers.
8. **Curriculum map of the module (optional)** to give a clear overview of the learning goals, progression, and connections between subjects in a module**.**
9. **Time table**
10. **Distribution and duration of teaching activities amongst different disciplines**
    Tabulate the total contact hour for each such subject and their further distribution for different teaching activities
11. **The modular outcomes** to help students understand what they will learn by the end of a module, it is important to provide a list of the specific outcomes that will be covered in a modular format.
12. **The learning objectives** of the module distributed according to subject and theme. The provision of learning objectives to students alongside modular outcomes serves to define the particular

abilities or information that they are expected to gain, as well as to provide guidance on the goals and trajectory of their learning.

13. **Operational definitions** of the different teaching activities aligned with those published in the curriculum.
14. The assessment section needs to provide a clear description of the following.
    - Write the **assessment policy** regarding internal assessment and professional examination in terms of format and regulation.
    - Provide the **assessment schedule**
    - Mention the **assessment tools** that are going to be used for the formative and summative assessment. These assessment tools should be the recommended
    - Provide the operational definitions for the assessment instruments in alignment with those published in the curriculum.
    - **Sample questions from each category** of assessment tool (optional) so that student may understand the format of exam (optional)
15. **The books and reading resources** for every subject should be mentioned.

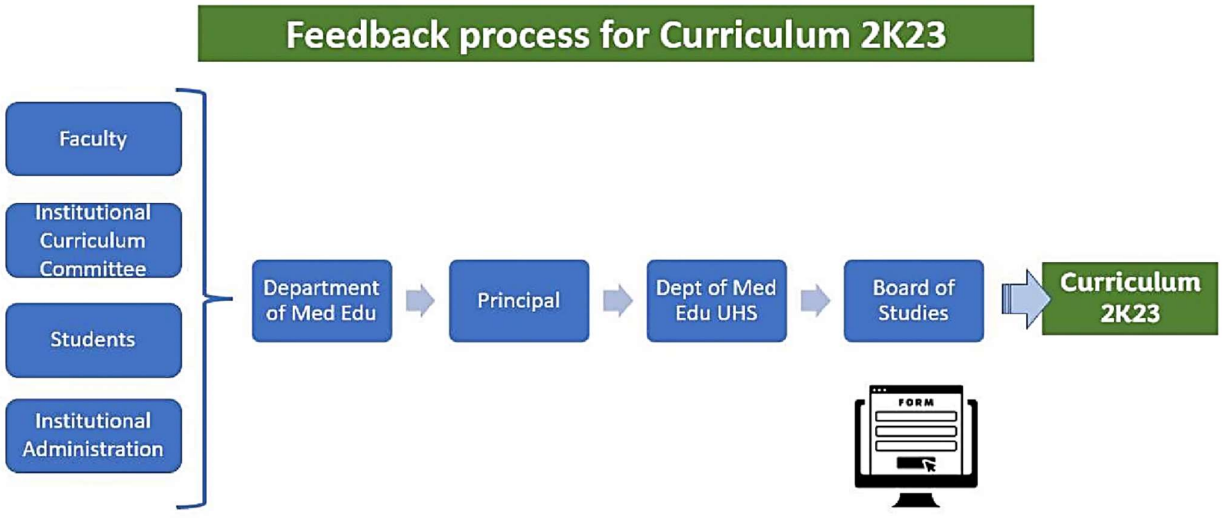

UNIVERSITY OF HEALTH SCIENCES LAHORE
UHS
Feedback
Proforma &
Process

Program Evaluation & Feedback

In continuation to the contextualization and development process undertaken by all the subject experts and stakeholders, the process of implementation is also vital. DME University of Health Sciences Lahore, considers the implementation segment of the entire continuum as the most vital and significant step. A curriculum is a live document and its viability dependence on the collaborative ownership of all the stakeholders. These stakeholders are inclusive of curriculum designers, students, faculty members, institutional administration, institutional leads, examiners, paper setters, question bank developers, PBL architects and program evaluators. To address such broad-based evaluation response UHS aims to keep the channel of feedback patent so that any possible glitch, omission, overlap, adjustment, or nuance could be addressed in a methodical manner.

A feedback proforma has been annexed which will also be available on the website. This if filled and routed through the channel mentioned below will be assessed at DME University of Health Sciences Lahore and then processed by the subject expert committee. In addition to the educationists at UHS we have module in charge and subject expert committees who can further process any recommendation or define a solution.

After the processing the recommended solution will be put up for approval by the Board of Studies before being conveyed across the board to the affiliated colleges and being implemented.



Curriculum Feedback/Suggestion Proforma

Name of the respondent / applicant
Title of the respondent / applicant (student/faculty member/ Principal)
Registration Number (or any official identification number)
Name of Department (in case of students mention year of entry)
Name of Institution
Observation / Impediment to training identified
Area of observation / Impediment **(content, theme, resources, instructional strategy, timetable, implementation, assessment, logbooks, clarity of instruction etc.)**

Any recommended solution:
Signature: _____ Name: _____ Date: _____

FOR OFFICE USE

Remarks by Director Medical Education

Signature Director Medical Education: _____ Name & Stamp: _____ Date: _____

Remarks by Principal

Signature: _____ Name & Stamp: _____ Date: _____

University of Health Sciences Lahore

Department of Medical Education

Innovating & Strategizing Healthcare Academia