

Batch  
2023-25



# Masters in Health Professions Education

## Curriculum

Rawalpindi Medical University

# Contents

University Mission and Vision .....	4
Mission Statement of Rawalpindi Medical University .....	4
Vision & Values of Rawalpindi Medical University .....	4
Needs Assessment of Masters in Health Professions Program .....	4
Goal of Masters in Health Professions Program .....	4
Program Objectives.....	4
Faculty.....	6
Institutional Faculty .....	6
International Faculty.....	6
Statutes and Regulations .....	7
General Regulations.....	7
Regulations for Admission .....	7
Regulations for Registration .....	8
Regulations for Examinations .....	8
Program Structure .....	9
Learning Outcomes.....	10
MHPE 1: Teaching and Learning .....	10
MHPE 2: Curriculum Development.....	11
MHPE 3: Assessment.....	12
MHPE 4: Research Approaches, Methods and Techniques.....	14
MHPE 5: Leadership, Management and Professionalism.....	15
MHPE 6: Program Evaluation and Quality Assurance.....	16
Entrustable Professional Activities (EPAs) .....	17
Mode of Study.....	18
Provisional Schedule .....	19
Proposed Time Tables.....	20
Contact Session -1.....	20
Contact Session -2.....	21
Contact Session -3.....	22
Contact Session -4.....	23

Contact Session- 5.....	24
Contact Session- 6.....	25
Assessment .....	26
Formative .....	26
Summative: .....	26
Written Semester Exams.....	26
OSTE Exam (1) .....	26
Thesis Defense .....	26
Table of Specifications .....	26
MHPE Portfolio.....	27
Research Project Timeline .....	29
Synopsis Writing Guidelines.....	30
Thesis Writing Guidelines .....	33

# University Mission and Vision

## Mission Statement of Rawalpindi Medical University

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

## Vision & Values of Rawalpindi Medical University

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

## Needs Assessment of Masters in Health Professions Program

There is a need to develop excellent teachers, innovators and researchers as well as leaders in health professions education.

## Goal of Masters in Health Professions Program

The goal of this 2 years Master's program is to develop graduates who will be able to use best evidence medical education for informed decision making in improving the standards of undergraduate, postgraduate and continuing health professions education (medical, dental, nursing and allied health) in Pakistan and across the globe.

## Program Objectives

This program is intended to achieve the following objectives,

- **Understanding Educational Theory and Practice:** Gain a comprehensive understanding of educational theories, principles, and best practices relevant to health professions education. This includes learning about instructional design, curriculum development, assessment and evaluation methods, and teaching strategies applicable to healthcare settings.
- **Enhancing Teaching and Facilitation Skills:** Develop and enhance the skills necessary to effectively teach and facilitate learning in healthcare settings. This includes acquiring knowledge and expertise in instructional methods, communication techniques, and learner-centered approaches to promote effective teaching and learning experiences.
- **Curriculum Design and Development:** Acquire the knowledge and skills to design, develop, implement, and evaluate educational curricula for health professions. This includes understanding the principles of curriculum planning, needs assessment, learning objectives formulation, and aligning educational activities with desired outcomes.

- **Assessment and Evaluation:** Gain proficiency in designing and implementing various assessment methods to evaluate learner performance and competence. This includes understanding the principles of formative and summative assessment, developing reliable and valid assessment tools, and interpreting assessment results to improve educational practices.
- **Educational Research and Scholarship:** Develop the ability to critically evaluate educational research literature, engage in educational research, and contribute to the scholarship of health professions education. This includes understanding research methodologies, data analysis, and ethical considerations in educational research.
- **Leadership and Ethical Responsibility:** Develop leadership skills to effectively lead educational initiatives and programs within healthcare organizations while upholding ethical responsibilities. This includes understanding organizational dynamics, strategic planning, resource allocation, promoting teamwork, and addressing ethical considerations in health professions education.
- **Technology-Enhanced Learning:** Develop skills in utilizing educational technologies and integrating them into health professions education. This includes leveraging technology tools, e-learning platforms, simulation, and virtual reality to enhance teaching and learning experiences.
- **Reflective Practice and Continuous Professional Development:** Cultivate a habit of reflective practice and engage in continuous professional development to enhance teaching and educational practices. This includes self-assessment, seeking feedback, and engaging in ongoing learning to stay abreast of advances in health professions education.

# Faculty

<b>Patron in Chief:</b>	Prof. Dr. Muhammad Umar (Vice Chancellor RMU)
<b>Program Director:</b>	Prof. Rai Muhammad Asghar
<b>Program Coordinator:</b>	Dr. Arsalan Manzoor Mughal

## Institutional Faculty

Prof. Lubna Ejaz  
Prof. Fuad Ak Niazi  
Prof. Asad Tamiz ud Din  
Dr. Sadia Ch  
Dr. Waqas Raza  
Dr. Arsalan Manzoor  
Dr. Rizwana Shahid  
Dr. Lubna Mairaj  
Dr Kholi Noreen  
Dr Muhammad Ali

## International Faculty

Dr. Ayaz Abbasi  
Dr. Alam Sher Malik  
Dr. Gohar Wajid  
Dr. Javed Iqbal  
Dr. Bilal Malik  
Dr. Samina Qureshi

# Statutes and Regulations

## General Regulations

- (i) The MHPE program shall be of 2 years duration.
- (ii) The academic requirements for the MHPE degree shall comprise course work and a thesis based on research.
- (iii) Each MHPE student shall follow the Syllabi and Courses of Studies as may be prescribed by the Academic Council from time to time
- (iv) The candidate shall be awarded the degree of Masters in Health Profession Education (MHPE) after successful completion of all courses of study, qualifying all examinations and fulfilling all other requirements of the degree (research work & thesis).

## Regulations for Admission

- (i) All the admission process will be coordinated and organized by the Department of Medical Education, RMU.
- (ii) There shall be an Admission Committee to supervise admissions.
- (iii) Admissions shall be made on the basis of merit
- (iv) The Vice Chancellor shall finally approve the admissions only in the light of recommendations made by the admission committee.
- (v) To be eligible for admission to MHPE, a candidate shall possess an MBBS / BDS degree.
- (vi) The number of students each year for admission in each discipline shall be decided by a committee comprising the Vice Chancellor (Chairperson), Director Medical Education
- (vii) The Heads of the Departments, each year, shall communicate for approval of the Admission Committee prior to the admissions, the total number of seats for students to be admitted. This number shall not be increased without the prior approval of the Department of Medical Education and the Vice Chancellor.
- (viii) Each candidate shall make an application for admission in response to advertisement, on a prescribed form along with documents specified in the admission form.

(ix) In case a candidate who is in Government service is selected by the committee for the admission he shall obtain the deputation from his department

(x) All the candidates shall have to undertake a bond at the time of registration.

(xi) Any student, who was rusticated, expelled or whose entry in the University Campus was banned for any reason whatsoever, shall not be re-admitted.

## Regulations for Registration

At the beginning of each session an MHPE student shall have to register for the courses of study in the prescribed manner, within 30 days of the commencement of the academic session.

## Regulations for Examinations

- (i) Each module will be assessed by two assignments, one after each contact session. The assignment will have to be handed in within 15 days. If the assignment is graded unsatisfactory, it can be resubmitted only once.
- (ii) A student shall be allowed to appear in the semester examinations, provided that he/she has attended 100% of the contact sessions and successfully completed all the assignments of the required modules.
- (iii) The candidates securing 90% marks or above shall be deemed to have passed with distinction, provided he/she has passed the examination in first attempt.
- (iv) A student who fails even after availing 2 chances shall cease to be a student of the University and shall not be eligible for another attempt.
- (v) The candidate shall have to pass the examination in a maximum of 2 attempts to enable him/her to continue his/her studies.
- (vi) Candidates who fail in any aspect of the assessment will have one further opportunity to submit/take the assessment.
- (vii) The Pass Marks for each assignment in a module shall be 60%.
- (viii) The Pass Marks for each Semester examination and OSTE Examination shall be 60%.
- (ix) Internal & External Evaluation of Thesis and Completion of Portfolio will be requirement for thesis defence.



# Program Structure

Year of course	Module	Module Lead	Title of module	Contact Hours	Assignments	Duration in weeks	Credit Hours
<b>Year 01</b>	<b>MHPE 1</b>	Dr. Sadia Chaudhry/ Dr Arsalan Manzoor Mughal	Teaching and learning & Educational Psychology	42 Hours (7 days)	2	13	4
	<b>MHPE 2</b>	Dr. Misbah Durrani/ Dr. Rizwana Shahid	Curriculum Development	42 Hours (7 days)	2	13	4
	<b>MHPE 3</b>	Prof. Fuad AK Niazi	Assessment in Medical Education	42 Hours (7 days)	2	13	4
	<b>MHPE 4</b>	Prof. Asad Tamiz-ud-din/ Dr Lubna Miraj Dr.Khola Noreen	Research Approaches, Methods & Techniques	42 Hours (7 days)	2	13	4
<b>Year 02</b>	<b>MHPE 5</b>	Dr. Arsalan Manzoor Mughal	Leadership Management & Professionalism	42 Hours (7 days)	2	13	4
	<b>MHPE 6</b>	Dr. Waqas Raza	Program Evaluation & Quality Assurance	42 Hours (7 days)	2	13	4
	<b>MHPE 7</b>		Thesis	Supervised		26	8
	<b>Total</b>						

# Learning Outcomes

## MHPE 1: Teaching and Learning

Topic	Contact Session	Learning Objective
<b>Educational Environment and Role of a Medical Teacher</b>	1	<ul style="list-style-type: none"> <li>• Describe what constitute an effective educational environment?</li> <li>• Discuss Online Learning Environment: challenges and how to make it effective?</li> <li>• Discuss Factors which augment and hamper effective educational environment</li> <li>• Discuss the challenges in Online environment</li> <li>• Describe the roles of a Medical Teacher</li> </ul>
<b>Educational competencies and Modes of Information Transfer</b>	1	<ul style="list-style-type: none"> <li>• Describe Blooms Taxonomy</li> <li>• Describe Modes of Information Transfer (MIT)</li> </ul>
<b>Theories of Behaviorism</b>	1	<ul style="list-style-type: none"> <li>• Discuss Behaviorism</li> <li>• Discuss Pavlov's work (classical conditioning)</li> <li>• Discuss B.F. Skinner's Views (Operant condition).</li> </ul>
<b>Theories of Cognitivism, Constructivism &amp; Information Processing</b>	1	<ul style="list-style-type: none"> <li>• Discuss Cognitivism, Constructivism &amp; Information Processing</li> <li>• Discuss Jean Piaget and Cognitive Development Theory</li> <li>• Discuss Lev S. Vygotsky's and Cognitive development.</li> <li>• Discuss Constructivism &amp; creating constructive learning environment.</li> <li>• Improve Long Term &amp; Short Memory</li> <li>• Discuss The role of Schema in contemporary Psychology</li> </ul>
<b>Newer Learning theories</b>	1	<ul style="list-style-type: none"> <li>• Apply Albert Bandura's Social Cognitive Theory; Self-Efficacy</li> <li>• Describe different inventories for learning styles Learning Styles</li> <li>• Describe principles of adult learning (Andragogy)</li> <li>• Describe the Gibbs Reflective Cycle</li> <li>• Describe Experiential Learning; Kolb's learning Cycle</li> <li>• Describe Dreyfus Model of Skill Acquisition</li> </ul>
<b>Attribution, Motivation and Self-Directed Learning</b>	1	<ul style="list-style-type: none"> <li>• Apply Theories of Motivation: Maslow's Hierarchy of Needs and Theory of attribution</li> <li>• Describe Self-directed Learning</li> </ul>
<b>Developing and delivering lectures</b>	1	<ul style="list-style-type: none"> <li>• Describe Gagne's nine events of Instruction.</li> <li>• Apply Gagne's nine events of Instruction to design a lecture.</li> </ul>
<b>Developing and delivering Small Group Discussions</b>	1	<ul style="list-style-type: none"> <li>• Describe attributes of Small Group Discussion</li> <li>• Describe 7 jumps of Problem Based Learning</li> </ul>
<b>Bedside &amp; Clinical Teaching</b>	2	<ul style="list-style-type: none"> <li>• Discuss Clinical skills centre teaching</li> <li>• Discuss Bed side Teaching</li> <li>• Discuss Ambulatory Teaching</li> </ul>
<b>Giving Feedback and Student Counselling</b>	2	<ul style="list-style-type: none"> <li>• Give constructive feedback to students</li> <li>• Apply feedback in formative assessment (written, verbal/audio, face to face)</li> <li>• Discuss Guided Discovery learning (Johari window) and student learning strategies</li> </ul>
<b>Microteaching Sessions</b>	2	<ul style="list-style-type: none"> <li>• Effectively deliver content</li> </ul>

## MHPE 2: Curriculum Development

Topic	Contact Session	Learning Objective
<b>Medical Curriculum-Pakistani and International Perspective</b>	1	<ul style="list-style-type: none"> <li>Identify different approaches to curriculum development and their underlying philosophies.</li> <li>Identify local, national and international drivers which shape curricula in medical education.</li> </ul>
<b>Aligning Learning Objectives, Modes of Information Transfer and Assessment Tools; Table of Specifications</b>	1	<ul style="list-style-type: none"> <li>Develop blueprints and table of specifications according to the Calgary model</li> </ul>
<b>Competency-based medical education</b>	1	<ul style="list-style-type: none"> <li>Discuss rationale and development of a competency-based curriculum</li> </ul>
<b>Introduction to the concepts of Integration</b>	1	<ul style="list-style-type: none"> <li>Describe basic concepts of integration as per the AMEE Guide No. 96</li> <li>Develop an integrated curriculum in the light of Harden's Integration Ladder</li> </ul>
<b>Twelve tips for developing an integrated curriculum</b>	1	<ul style="list-style-type: none"> <li>Develop a curriculum based in recommendations in Twelve tips for developing an integrated curriculum</li> </ul>
<b>Six step approach to Curriculum Development</b>	1	<ul style="list-style-type: none"> <li>Apply basic principles and steps in curriculum designing and planning in light of a six step approach by David E.Kern</li> </ul>
<b>Curriculum Planning using the Curriculum Navigator</b>	2	<ul style="list-style-type: none"> <li>Plan and develop the curriculum according to the curriculum navigator by Al-Eraky</li> </ul>
<b>Harden's 10 questions for curricular planning</b>	2	<ul style="list-style-type: none"> <li>Apply basic principles and steps in curriculum designing and planning in light of Harden's 10 questions</li> </ul>
<b>Twelve tips to designing and implementing a learner-centred curriculum</b>	2	<ul style="list-style-type: none"> <li>Describe strategies to design and implement a learner centred curriculum</li> </ul>
<b>Curriculum development for the workplace using Entrustable Professional Activities (EPAs)</b>	2	<ul style="list-style-type: none"> <li>Describe strategies to design and implement a Curriculum for the workplace using Entrustable Professional Activities (EPAs) as described in AMEE Guide No. 99</li> </ul>
<b>Curriculum Mapping</b>	2	<ul style="list-style-type: none"> <li>Describe the significance of curricular mapping</li> <li>Develop a Curricular Map</li> </ul>
<b>Analysing the curriculum</b>	2	<ul style="list-style-type: none"> <li>Analyse the curriculum according to posner</li> </ul>

## MHPE 3: Assessment

Topic	Contact Session	Learning Objective
<b>Problems with assessment in medical education</b>	3	<ul style="list-style-type: none"> <li>Discuss current issues in assessment</li> </ul>
<b>What Why to assess &amp; how to assess? Definition and types of assessment</b>	3	<ul style="list-style-type: none"> <li>Define Assessment and Competence</li> <li>Understand the concepts in assessment</li> <li>Explain various test theories i.e., Classical test, Generalizability and Item response theory</li> <li>Differentiate between Absolute and Relative standard</li> <li>Describe the characteristics and differences of various Diagnostic assessments i.e., Formative and Summative</li> </ul>
<b>Psychometrics of assessment</b>	3	<ul style="list-style-type: none"> <li>Describe characteristics of good assessment</li> <li>Illustrate characteristics of Reliability and Validity of an assessment</li> <li>Illustrate the concept of self-assessment</li> </ul>
<b>Assessment of Knows and Knows How MCQ (One best) EMQ, Case Cluster MCQ</b>	3	<ul style="list-style-type: none"> <li>Illustrate various tools used for the assessment of Cognitive Domain</li> <li>Differentiate between Open ended and Closed ended type questions</li> <li>Write Short Essay questions, Long Essay questions and Short Answer questions</li> <li>Identify the various Pros and Cons of SAQs, SEQs and Long Answer Questions</li> <li>Describe different types of Stimulant Format Items i.e. EMQs, Key feature approach, Script concordance test</li> <li>Identify the various types of Multiple Choice Questions</li> <li>Illustrate the features of Multiple true/ false type, One best type, Extended matching, Script Concordance test</li> <li>Develop Multiple true/ false type, One best type, Extended matching, Script Concordance test</li> <li>Identify the various Pros and Cons of Multiple true/ false type, One best type, Extended matching, Script Concordance test</li> <li>Understand Basic structure for One best type</li> <li>Interpret Basic rules for one best items</li> <li>Write one best type MCQs</li> <li>Identify various flaws in one best type MCQs</li> </ul>
<b>Item analysis Item Banking Activity</b>	3	<ul style="list-style-type: none"> <li>Develop pre and post exam analysis</li> <li>Develop Statistical analysis of examination performance</li> <li>Interpret Difficulty and discrimination indices</li> <li>Understand Analytical vs. Holistic rubrics</li> </ul>
<b>Assessment of Shows How Performance Assessment • OSPE • OSCE</b>	4	<ul style="list-style-type: none"> <li>Recognize various levels of Miller's Triad</li> <li>Illustrate common methods of evaluating psychomotor skills</li> <li>Understand Holistic rating scale: long and short cases</li> <li>Identify various Pros and Cons of objective structured clinical examination OSCE , Long case, Short case, Table viva</li> <li>Perform Psychometric analysis of OSCE</li> <li>Prepare, organize and develop OSCE</li> </ul>
<b>Standardization • Guideline</b>	4	<ul style="list-style-type: none"> <li>Describe Standard setting</li> <li>Perform the Quality control of Items</li> <li>Compare the types of standards i.e. Relative and Absolute</li> </ul>

<ul style="list-style-type: none"> <li>• Interpreting Standardized Achievement of Test scores</li> <li>• Calculate the GPA</li> </ul>		<ul style="list-style-type: none"> <li>• Recognize the important characteristics of the standard setters and standard setting methods</li> <li>• Enlist and Describe the Four methods used for setting standards i.e. Relative, Assessment centered, Examinee centered and Compromise methods</li> </ul>
<b>Assessment of Does Workplace Assessment Tools</b> <ul style="list-style-type: none"> <li>• Mini CEX, DOPS</li> <li>• Script concordance test</li> <li>• Progress testing</li> </ul>	4	<ul style="list-style-type: none"> <li>• Illustrate Work place based assessment</li> <li>• Understand the Basic structure of MINI-CEX, CBD (Case based discussion), CSR ( Chart stimulated recall), DOPS, MSF (3600 )</li> <li>• Identify various Pros and Cons of MINI-CEX, CBD (Case based discussion), CSR ( Chart stimulated recall), DOPS, MSF (3600 )</li> <li>• Appraise the outstanding issues in WPBA</li> </ul>
<b>LogBooks and Portfolios</b>	4	<ul style="list-style-type: none"> <li>• Differentiate between Logbook and Portfolio</li> <li>• Illustrate the Objectives and Content of Logbook and Portfolio</li> <li>• Identify the success factors of Portfolio</li> <li>• Discover ways for Portfolio assessment</li> <li>• Develop Logbook and Portfolio</li> </ul>
<b>Formative Assessment and Effective Feedback</b>	4	<ul style="list-style-type: none"> <li>• Explain Feedback</li> <li>• Differentiate between Formative and Summative Feedback</li> <li>• Understand the intent and importance of Feedback</li> <li>• Appraise the difficulties in giving Feedback</li> <li>• Illustrate the Principles of Effective Feedback</li> <li>• Give Effective Feedback</li> </ul>
<b>Assessment of Attitude, behaviour and Professionalism</b>	4	<ul style="list-style-type: none"> <li>• Define Professionalism</li> <li>• Know What to evaluate, How and Why to evaluate professionalism</li> <li>• Paraphrase newer methods of evaluating professionalism</li> </ul>

## MHPE 4: Research Approaches, Methods and Techniques

Topic	Contact Session	Learning Objective
<b>Areas and Scope of Research in Medical Education</b>	3	<ul style="list-style-type: none"> <li>Describe areas and Scope of Research in Medical Education</li> </ul>
<b>Introduction to Paradigms, methodologies &amp; approaches in medical education</b>	3	<ul style="list-style-type: none"> <li>Describe the Paradigms, methodologies &amp; approaches in medical education</li> </ul>
<b>Identifying a Research Problem</b>	3	<ul style="list-style-type: none"> <li>Identify a Research Problem</li> </ul>
<b>Reviewing the Literature</b>	3	<ul style="list-style-type: none"> <li>Review the Literature</li> </ul>
<b>Specifying a Purpose and Research Questions or Hypotheses</b>	3	<ul style="list-style-type: none"> <li>Specify a Purpose and Research Questions or Hypotheses</li> </ul>
<b>Collecting Quantitative Data</b>	3	<ul style="list-style-type: none"> <li>Collect Quantitative Data</li> </ul>
<b>Analyzing and Interpreting Quantitative Data</b>	3	<ul style="list-style-type: none"> <li>Analyze and Interpret Quantitative Data</li> </ul>
<b>Collecting Qualitative Data</b>	3	<ul style="list-style-type: none"> <li>Collect Qualitative Data</li> </ul>
<b>Analyzing and Interpreting Qualitative Data</b>	3	<ul style="list-style-type: none"> <li>Analyze and Interpret Qualitative Data</li> </ul>
<b>Reporting and Evaluating Research</b>	3	<ul style="list-style-type: none"> <li>Report and Evaluate Research</li> </ul>
<b>Development of Research Proposal and Ethical Approval</b>	4	<ul style="list-style-type: none"> <li>Develop Research Proposal and seek Ethical Approval</li> </ul>
<b>Experimental Designs</b>	4	<ul style="list-style-type: none"> <li>Describe and apply Experimental Study designs</li> </ul>
<b>Correlational Designs</b>	4	<ul style="list-style-type: none"> <li>Describe and apply , Correlational Study design</li> </ul>
<b>Survey Designs</b>	4	<ul style="list-style-type: none"> <li>Describe and apply Survey study Designs</li> </ul>
<b>Grounded Theory Designs</b>	4	<ul style="list-style-type: none"> <li>Describe and apply Grounded Theory study Designs</li> </ul>
<b>Ethnographic Designs Narrative Research Design</b>	4	<ul style="list-style-type: none"> <li>Describe and apply Ethnographic &amp; Narrative study Designs</li> </ul>
<b>Mixed Methods Designs</b>	4	<ul style="list-style-type: none"> <li>Describe and apply Mixed Method study Designs</li> </ul>
<b>Action Research Designs</b>	4	<ul style="list-style-type: none"> <li>Describe and apply Action research study Designs</li> </ul>
<b>Presentations of developed proposals</b>	4	<ul style="list-style-type: none"> <li>Develop Research proposals</li> </ul>

## MHPE 5: Leadership, Management and Professionalism

Topic	Contact Session	Objectives
<b>Types of Clinical and Educational Leadership</b>	1	<ul style="list-style-type: none"> <li>• Define Clinical leadership</li> <li>• Differentiate between leadership and management</li> <li>• Describe significance of different leadership styles</li> <li>• Develop a mission, strategy and vision</li> <li>• Link leadership &amp; professionalism values to specific behaviors</li> <li>• Describe models for leading change</li> </ul>
<b>Medical Professionalism &amp; Medical Ethics</b>	1	<ul style="list-style-type: none"> <li>• Define Medical Professionalism and Medical Ethics</li> <li>• Describe attributes of the healer and the professional</li> <li>• Discuss the social contract of the medical profession</li> <li>• Link professionalism values to specific behaviors</li> </ul>
<b>Communication Skills</b>	1	<ul style="list-style-type: none"> <li>• Define communication and its types</li> <li>• Describe the communication competence model</li> <li>• Define non-verbal communication</li> <li>• Outline and discuss functions of nonverbal communication</li> <li>• Discuss types of non-verbal messages</li> <li>• Apply your knowledge of non-verbal communication</li> </ul>
<b>Mentoring, Counselling, Listening &amp; Feedback skills</b>	1	<ul style="list-style-type: none"> <li>• Describe the role of Mentoring and Counseling</li> <li>• Describe attribution theory</li> <li>• Describe Active Listening</li> <li>• Describe sandwich technique and ask tell ask methods of giving feedback</li> </ul>
<b>Time Management</b>	1	<ul style="list-style-type: none"> <li>• Effectively manage time using the Eisenhower matrix</li> </ul>
<b>Personalities and their role in organizations</b>	1	<ul style="list-style-type: none"> <li>• Describe Myer's Brigs 16 personality types</li> <li>• Describe Big Five personality traits</li> </ul>
<b>Stress Management</b>	1	<ul style="list-style-type: none"> <li>• Identify causes of stress and develop strategies for their management</li> </ul>
<b>Teaching and Assessing Leadership &amp; Professionalism</b>	2	<ul style="list-style-type: none"> <li>• Develop strategies for teaching and assessing Leadership &amp; professionalism</li> </ul>
<b>Emotional Intelligence skills</b>	2	<ul style="list-style-type: none"> <li>• Describe Emotional Intelligence</li> <li>• Develop emotional awareness and emotional management</li> <li>• Develop social awareness and relationship management</li> </ul>
<b>Handling different people and behaviours</b>	2	<ul style="list-style-type: none"> <li>• Describe and Identify the different types of behaviors that people exhibit</li> <li>• Develop assertive behavior</li> <li>• Demonstrate behaviors for of mirroring and matching in good and bad scenarios</li> <li>• Demonstrate behaviors for building rapport and persuasion</li> </ul>
<b>Conflict Management</b>	2	<ul style="list-style-type: none"> <li>• Describe reasons for conflict</li> <li>• Describe the model of conflict resolution</li> </ul>
<b>Team working</b>	2	<ul style="list-style-type: none"> <li>• Describe principles of teamwork and strategies to make it effective</li> </ul>

## MHPE 6: Program Evaluation and Quality Assurance

Topic	Contact Session	Learning Objectives
<b>Introduction to Program Evaluation</b>	1	<ul style="list-style-type: none"> <li>• Define program evaluation</li> <li>• Discuss the Importance of Program Evaluation for Stakeholders</li> <li>• Differentiate between Internal Evaluation &amp; External Evaluation</li> <li>• Differentiate between monitoring, Evaluation and Quality Assurance in medical education</li> </ul>
<b>Program Evaluation Models</b>	1	<ul style="list-style-type: none"> <li>• Discuss the importance, strengths, weaknesses of CIPP model in educational Program evaluation and employ it to evaluate an educational programme</li> <li>• Describe Kirkpatrick's four level and the logic Model with its strengths and weaknesses</li> </ul>
<b>WFME &amp; PMDC Standards</b>	1	<ul style="list-style-type: none"> <li>• Describe the WFME standards for undergraduate and postgraduate medical education</li> <li>• Perform self-evaluation Using WFME standards</li> <li>• Design a self-assessment model using WFME standards</li> <li>• Discuss application of WFME standards to improve medical education in Pakistan</li> <li>• Discuss PMDC/PMC Standards of undergraduate medical education</li> </ul>
<b>Conducting Program Evaluations</b>	1 & 2	<ul style="list-style-type: none"> <li>• Describe the steps in planning and implementing program evaluation</li> <li>• Choose the Evaluation questions to be asked</li> <li>• Design the Evaluation using the appropriate design &amp; measurement method</li> </ul>
<b>Quality in Medical Education</b>	2	<ul style="list-style-type: none"> <li>• Define Quality Assurance, Quality Control, Quality Enhancement/Improvement, Quality Audit, Standards, Accreditation</li> <li>• Discuss Quality Assurance Frameworks and their uses in Health Professions education</li> <li>• Discuss Effectiveness of Quality Framework evaluate the quality of curriculum and Self Study of Curriculum</li> </ul>
<b>Strategic Planning</b>	2	<ul style="list-style-type: none"> <li>• Perform Setting Direction &amp; Strategic Planning,</li> <li>• Develop checklist for strategic planning in HPE</li> <li>• Describe interdependency of strategic planning and quality assurance in Medical Education</li> </ul>



## Entrustable Professional Activities (EPAs)

An Entrustable Professional Activity is a key task of a discipline (i.e. specialty or subspecialty) that an individual can be trusted to perform in a given health care context, once sufficient competence has been demonstrated (*Ten Cate O. Entrustability of professional activities and competency-based training. Medical Education. 2005 Dec;39(12): 1176-7*). The EPAs for MHPE program are shown in the table below,

Entrustable Professional Activities	Module 1	Module 2	Module 3	Module 4	Module 5	Module 6
Select & demonstrate competency in a range of teaching methods	*					
Learn, network, contribute with a sharing community	*	*	*	*	*	*
Create compelling presentations employing varied and appropriate media	*				*	
Design and implement a curricular intervention		*				
Select a learning outcome, and design, select and develop an appropriate assessment method		*	*			
Design a learner assessment blueprint for a selected educational intervention / curriculum		*	*			
Select and implement an appropriate standard setting method for a selected assessment method and application			*			
Design and implement a program evaluation of an existing educational program curriculum						*
Critique a curricular change		*				
Develop a proposal for organizational change					*	*
Implement change in an organizational setting					*	
Design and implement a research study				*		
Write a grant proposal to fund an educational research or evaluation project				*		
Write a scholarly non research position odd review paper of publication quality				*		
Critically review research manuscripts				*		
Create a learning plan	*					
Create an educator's portfolio			*			
Solicit feedback on one's leadership and teaching from multiple observers and critically reflect on it	*				*	
Mentor a colleague or learner or consult with an organization	*				*	
Leading a group and working in teams	*	*	*	*	*	*
Develop curricular programs, teach, train, assess and evaluate in a distance learning format	*	*	*		*	*
Reflect and improve through self-regulation	*	*	*	*	*	*

## Mode of Study

Each module has 7 days of face-to-face contact to be covered in two contact sessions. The remainder of the time will be a mixture of self-study and online contact.

At the end of each contact session 2 assignments will be given to the candidates. Timeline for assignment completion will be as follows

2 weeks for submission of First Draft

2 weeks for checking assignments.

2 weeks for submission of Final Draft (if first draft is unsatisfactory)

# Provisional Schedule

<i>Year 1</i>	1 <sup>st</sup> Contact Session	2nd Contact Session	Semester 1 Exam	3rd Contact Session	4 <sup>th</sup> Contact Session	Semester 2 Exam
	<b>31-7-2023 to 06-08-2023</b> <b>7 Days</b>	<b>30-10-2023 to 5-11-2023</b> <b>7days</b>	<b>29-1-2024</b> <b>1 Day</b>	<b>29-1-2024 to 4-2-2024</b> <b>7 Days</b>	<b>29-4-2024 to 05-5-2024</b> <b>7 Days</b>	<b>29-7-2024</b> <b>1 Day</b>
	<b>MHPE 1</b> Teaching and Learning & Educational Psychology	<b>MHPE 1</b> Teaching & Learning & Educational Psychology	Written (MHPE 1&2)	<b>MHPE 3</b> Assessment in Medical education	<b>MHPE 3</b> Assessment in Medical education	Written (MHPE 3&4)
	<b>MHPE 2</b> Curriculum Development & Evaluation	<b>MHPE 2</b> Curriculum Development & Evaluation		<b>MHPE 4</b> Research Approaches & Management	<b>MHPE 4</b> Research Approaches & Management	
	<b>Formative</b> 2 Assignments	<b>Formative</b> 2 Assignments		<b>Formative</b> 2 Assignments	<b>Formative</b> 2 Assignments	
<i>Year 2</i>	<b>29-7-2024 to 04-8-2024</b> <b>7 Days</b>	<b>28-10-2024 to 03-11-2024</b> <b>7 Days</b>	<b>27-1-2025</b> <b>1 Day</b>	<b>6 Months</b>		<b>28-7-2025</b> <b>1 Day</b>
	<b>MHPE 5</b> Leadership, Management & Professionalism	<b>MHPE 5</b> Leadership, Management & Professionalism	Written (MHPE 5&6)	<b>Data Collection &amp; Thesis Writing</b>		<b>Thesis Defense</b>
	<b>MHPE 6</b> Program Evaluation & Quality Assurance	<b>MHPE 6</b> Program Evaluation & Quality Assurance		OSTE (MHPE 1-6)- 28-4-2025		
	<b>Formative</b> 2 Assignments	<b>Formative</b> 2 Assignments				

# Proposed Time Tables

## Contact Session -1

DATE	08:00AM -- 09:30AM	09:30AM -- 11:00AM	11:00AM -- 11:30AM	11:30AM -- 12:30PM	12:20PM -- 02:00PM
<b>Day 1 MHPE 1</b>	Introduction to Health Professions Education and Themes	Introduction to Educational Environment	Tea Break	Principles of Adult Learning; Applying Educational Theory into Practice	Principles of Adult Learning; Applying Educational Theory into Practice
<b>Day 2 MHPE 1</b>	Academic Writing Skills (Basic level)	Plagiarism  Introduction to different Teaching and Learning situations	Tea Break	Introduction to Personal Development Plan –PDP and practice  Feedback Skill	Reflective Writing Skill  How to write assignments: Tips
<b>Day 3 MHPE 1</b>	Microteaching sessions	Weiner Attribution Theory About Success or Failure	Tea Break	Microteaching sessions	Microteaching sessions
<b>Day 4 MHPE 1 &amp; 2</b>	Microteaching sessions	Microteaching sessions	Tea Break	Medical Curriculum- Pakistani and International Perspective	
<b>Day 5 MHPE 2</b>	Curriculum planning and development	Competencies, Goals and Objectives	Tea Break	Group Activity- Competencies, Goals and Objectives	
<b>Day 6 MHPE 2</b>	Table of Specifications	Activity- Development of Table of Specifications	Tea Break	Activity- Development of Table of Specifications  12 Tips in Developing a Curriculum	
<b>Day 7 MHPE 2</b>	The Undergraduate Curriculum		Tea Break	Activity- Developing an Undergraduate Curriculum	

## Contact Session -2

DATE	08:00AM -- 09:30AM	09:30AM -- 11:00AM	11:00AM -- 11:30AM	11:30AM -- 12:30PM	12:20PM -- 02:00PM
<b>Day 1 MHPE 1</b>	Teaching and Learning in Clinical Environment	Learning Styles and its Implications in Teaching and Learning	Tea Break	Introduction to Educational Psychology and Learning	Introduction to Learning Theory Motivation and Student Learning: Theories of Motivation
<b>Day 2 MHPE 1</b>	introduction to Different Psychological Perspectives /Broad Domains of Theories	Behavioral Psychology & Learning	Tea Break	Cognitive Psychology & Student Development	Cognitive Psychology & Student Development
<b>Day 3 MHPE 1</b>	Multiple Intelligence and its Implications in Teaching and Learning  The Brain and Thinking; Fostering Cognitive Growth:	Weiner Attribution Theory About Success or Failure	Tea Break	Information Processing Theory	Contemporary Theories in Teaching &  Learning:
<b>Day 4 MHPE 1 &amp; 2</b>	Contemporary Theories in Teaching & Learning	Contemporary Theories in Teaching & Learning	Tea Break	Recap of previous sessions  Curriculum maintenance, enhancement, dissemination and Renewal. (Kern)  Curricular Diseases	
<b>Day 5 MHPE 2</b>	Basic principles of designing Table of specifications		Tea Break	Curriculum Mapping  (Group activity)	
<b>Day 6 MHPE 2</b>	Designing of table of specification		Tea Break	Designing of table of specification	
<b>Day 7 MHPE 2</b>	WFME standards for distributed and distance learning in medical education		Tea Break	WFME BME standards, Curriculum Analysis  & Critique on PMDC Curriculum	

### Contact Session -3

DATE	08:00AM -- 09:30AM	09:30AM -- 11:00AM	11:00AM -- 11:30AM	11:30AM -- 12:30PM	12:20PM -- 02:00PM
<b>Day 1 MHPE 3</b>	Introduction to Assessment and Competence	Introduction to Assessment and Competence	Tea Break	Learning Objectives and Table of Specification	Learning Objectives and Table of Specification
<b>Day 2 MHPE 3</b>	Learning Objectives and Table of Specification	Learning Objectives and Table of Specification	Tea Break	Standard Setting	Standard Setting
<b>Day 3 MHPE 3</b>	Standard Setting	Standard Setting	Tea Break	Tools for assessment of Cognitive Domain	Tools for assessment of Cognitive Domain
<b>Day 4 MHPE 3 &amp; 4</b>	Tools for assessment of Cognitive Domain	Tools for assessment of Cognitive Domain	Tea Break	Areas and Scope of Research in Medical Education	Introduction to Paradigms, Methodologies & Approaches in Medical Education
<b>Day 5 MHPE 4</b>	Areas and Scope of Research in Medical Educatio	Introduction to Paradigms, Methodologies & Approaches in Medical Education	Tea Break	Introduction to Paradigms, Methodologies & Approaches in Medical Education	Identifying a Research Problem
<b>Day 6 MHPE 4</b>	Reviewing the Literature	Specifying a Purpose and Research Questions or Hypotheses	Tea Break	Collecting Quantitative Data	Analyzing and Interpreting Quantitative Data
<b>Day 7 MHPE 4</b>	Collecting Qualitative Data	Analyzing and Interpreting Qualitative Data	Tea Break	Analyzing and Interpreting Qualitative Data	Reporting and Evaluating Research

## Contact Session -4

<b>DATE</b>	<b>08:00AM -- 09:30AM</b>	<b>09:30AM -- 11:00AM</b>	<b>11:00AM -- 11:30AM</b>	<b>11:30AM -- 12:30PM</b>	<b>12:20PM -- 02:00PM</b>
<b>Day 1 MHPE 3</b>	Multiple Choice Question	Multiple Choice Question	Tea Break	Multiple Choice Question	Multiple Choice Question
<b>Day 2 MHPE 3</b>	Performance Assessment	Performance Assessment	Tea Break	Performance Assessment	Performance Assessment
<b>Day 3 MHPE 3</b>	Workplace Based Assessment WPBA	Workplace Based Assessment WPBA	Tea Break	Portfolio and Log book	Portfolio and Log book
<b>Day 4 MHPE 3 &amp; 4</b>	Giving Feedback and Evaluating Professionalism	Giving Feedback and Evaluating Professionalism	Tea Break	Development of Research Proposal and Ethical Approval	Development of Research Proposal and Ethical Approval
<b>Day 5 MHPE 4</b>	Experimental Designs	Correlational Designs	Tea Break	Survey Designs	Grounded Theory Designs
<b>Day 6 MHPE 4</b>	Ethnographic Designs	Narrative Research Designs	Tea Break	Mixed Methods Designs	Action Research Designs
<b>Day 7 MHPE 4</b>	Presentations of Developed Proposals	Presentations of Developed Proposals	Tea Break	Presentations of Developed Proposals	Presentations of Developed Proposals

## Contact Session- 5

DATE	08:00AM -- 09:30AM	09:30AM -- 11:00AM	11:00AM -- 11:30AM	11:30AM -- 12:30PM	12:20PM -- 02:00PM
<b>Day 1 MHPE 5</b>	Introduction to Clinical Leadership	Introduction to Clinical Leadership	Tea Break	Medical Professionalism & Medical Ethics	Medical Professionalism & Medical Ethics
<b>Day 2 MHPE 5</b>	Time Management	Time Management (Group Activity)	Tea Break	Stress Management	Stress Management (Group Activity)
<b>Day 3 MHPE 5</b>	Introduction to Communication Skills	Non-Verbal Communication	Tea Break	Listening Feedback & Rapport	Listening Feedback & Rapport (Group Activity)
<b>Day 4 MHPE 5 &amp; 6</b>	Managing Behaviors	Managing Behaviors (Group Activity)	Tea Break	Introduction to Program Evaluation Program Evaluation: importance, what, why?	Introduction to Program Evaluation Program Evaluation: importance, what, why?
<b>Day 5 MHPE 6</b>	The Steps in Planning and Implementing Program Evaluation	The Steps in Planning and Implementing Program Evaluation	Tea Break	The Steps in Planning and Implementing Program Evaluation	The Steps in Planning and Implementing Program Evaluation
<b>Day 6 MHPE 6</b>	Introduction to Common Evaluation Approaches	Introduction to Common Evaluation Approaches	Tea Break	Introduction to Common Evaluation Approaches	Introduction to Common Evaluation Approaches
<b>Day 7 MHPE 6</b>	PMC Initial Recognition/ Accreditation Framework	PMC Initial Recognition/ Accreditation Framework	Tea Break	PMC Initial Recognition/ Accreditation Framework	PMC Initial Recognition/ Accreditation Framework



## Contact Session- 6

DATE	08:00AM -- 09:30AM	09:30AM -- 11:00AM	11:00AM -- 11:30AM	11:30AM -- 12:30PM	12:20PM -- 02:00PM
<b>Day 1 MHPE 5</b>	Emotional Intelligence	Emotional Intelligence	Tea Break	Leading Change with Team Work	Leading Change with Team Work
<b>Day 2 MHPE 5</b>	Developing a Strategic Plan	Developing a Strategic Plan	Tea Break	Developing a Strategic Plan	Developing a Strategic Plan
<b>Day 3 MHPE 5</b>	Challenges for Health Care & Educational Leaders	Challenges for Health Care & Educational Leaders	Tea Break	Teaching Leadership and Professionalism	Teaching Leadership and Professionalism
<b>Day 4 MHPE 5 &amp; 6</b>	Assessing Leadership and Professionalism	Assessing Leadership and Professionalism	Tea Break	Program Evaluation: How?	Program Evaluation: How?
<b>Day 5 MHPE 6</b>	Introduction to Common Evaluation Approaches	Introduction to Common Evaluation Approaches	Tea Break	Introduction to Common Evaluation Approaches	Introduction to Common Evaluation Approaches
<b>Day 6 MHPE 6</b>	Introductory Session on Quality Assurance	Introductory Session on Quality Assurance	Tea Break	Introductory Session on Quality Assurance	Introductory Session on Quality Assurance
<b>Day 7 MHPE 6</b>	Quality Assurance in Medical Writings and Thesis	Quality Assurance in Medical Writings and Thesis	Tea Break	Strategic Planning	Strategic Planning

# Assessment

## Formative

2 Assignments per Module -20 Marks Each

## Summative:

Written Semester Exams

A semester exam will be held after every 6 Months. Each semester exam will have 100 MCQs (1 Mark each)

Semester 1 Exam

50 MCQs- Module 1

50 MCQs- Module 2

Semester 2 Exam

50 MCQs- Module 3

50 MCQs- Module 4

Semester 3 Exam

50 MCQs- Module 5

50 MCQs- Module 6

OSTE Exam (1)

One OSTE exam will be held with Semester 3

12 stations- 10 Marks each

Thesis Defense

Will be held at the end of the program

## Table of Specifications

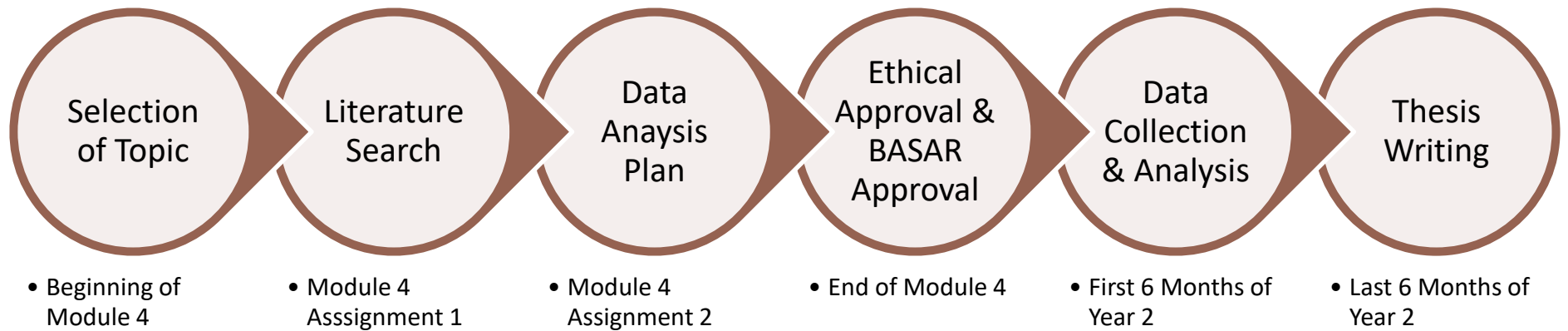
Assessments	No of Items	Marks per item	Marks per Assessment	No of Assessments	Total Marks	Percentage
Assignments	1 LEQ	20	20	12	240	30.77%
Written Semester	100 MCQ	1	100	3	300	38.46%
OSTE	12 Stations	20	120	1	240	30.76%
<b>Total</b>					780	100%

# MHPE Portfolio

- Portfolios are a useful vehicle for supporting and assessing learning. In medical education portfolios serve three main goals: monitoring and planning learner development, assessment and stimulating reflection. (*Understanding Medical Education, pg 193*). Following are the guidelines for Portfolio Development in MHPE-RMU program.
- Use A-4 size paper for the portfolio and use at least 11 font size in Times New Roman for the text. It should have 1.15 space between lines.
- Use proper Title page and then it should also have a proper contents page
- You can use different separator pages for each section
- You can also use pictures of the MHPE course that you have taken. An official group photo will also be shared with you that you can use in the portfolio.
- It should be completed under the following headings
  - Title Page (Specimen Attached)
  - Table of Contents
  - Educational Goal Statement (Write your MHPE goal statement in 300-400 words)
  - Educational Activities (According to Gibbs reflective cycle. Add pictures where relevant. In the end of each section make a **list** of the most relevant resource material you discovered for that module)
    - Module 1
      - Introduction
      - Reflection
        - 1<sup>st</sup> Contact Session
        - 2<sup>nd</sup> Contact Session
      - Module 1 Assignment 1
      - Module 1 Assignment 2
      - Learning Resources
    - Module 2
      - Introduction
      - Reflection
        - 1<sup>st</sup> Contact Session
        - 2<sup>nd</sup> Contact Session
      - Module 2 Assignment 1
      - Module 2 Assignment 2
      - Learning Resources
    - Module 3
      - Introduction
      - Reflection
        - 1<sup>st</sup> Contact Session
        - 2<sup>nd</sup> Contact Session
      - Module 3 Assignment 1
      - Module 3 Assignment 2

- Learning Resources
- Module 4
  - Introduction
  - Reflection
    - 1<sup>st</sup> Contact Session
    - 2<sup>nd</sup> Contact Session
  - Module 4 Assignment 1
  - Module 4 Assignment 2
  - Learning Resources
- Module 5
  - Introduction
  - Reflection
    - 1<sup>st</sup> Contact Session
    - 2<sup>nd</sup> Contact Session
  - Module 5 Assignment 1
  - Module 5 Assignment 2
  - Learning Resources
- Module 6
  - Introduction
  - Reflection
    - 1<sup>st</sup> Contact Session
    - 2<sup>nd</sup> Contact Session
  - Module 6 Assignment 1
  - Module 6 Assignment 2
  - Learning Resources
- Future Goals
  - Introduction section needs to contain learning objectives and names of facilitators
  - Reflection should be according to Gibbs reflective cycle
  - Only final versions of assignments should be added
  - Learning resource section should include **list** of resources you found most relevant
  - Portfolio must be corrected and approved from your mentor
  - Submission of Portfolio document will be eligibility for Thesis Defense
  - Prepare two portfolios in book binding (thesis format)
    - Soft copy must be emailed to Mr. Jawad Hasnain, at [mhpe@rmur.edu.pk](mailto:mhpe@rmur.edu.pk)
    - One hard copy must be sent by hand or courier to Mr. Jawad Husain
    - One hard copy must be kept in your personal library

# Research Project Timeline



# Synopsis Writing Guidelines

Developed by R&D Department RMU

Modified by HPE faculty for MHPE candidates

The synopsis is a brief outline of your research work with 1500 words as the maximum limit. A synopsis must have the following headings:

## **Title**

Should reflect the objectives of the study. In consideration PICO (population, intervention, control, and outcomes) and FINER (feasible, interesting, novel, ethical, and relevant) criteria in framing a research question or title of the study.

## **Introduction**

Introduction provides background information and rationale for the research.

Build an argument for the research and present your research question(s) and aims.

Use literature citations in Vancouver style. Example.....text..... (1)

It may include the literature review of the following:

- o Introduce the title
- o Background
- o Relevance, importance and applicability
- o Rationale/purpose of study specify
- o Introduce the research question
- o Identify research gap
- o Why it is important to fill the gap
- o What is known (past references)
- o Narrow down from known to unknown
- o What is unknown that is your research question

Introduction should not exceed 01-02 pages and should not exceed 250-300 words.

## **Rationale**

Write down why you want to do this study. What you want to achieve by doing this research. (One paragraph)

## **Objective**

Write clearly objective of your study aligned with research question

Write using annotation.

## **Hypothesis**

Write your hypothesis accordingly to type of study and if applicable.

## **Operational Definitions**

Is the definition of the exposure and outcome variables of interest in context to the objective in

a particular study and their means of measurement/determination.

### **Material & Methods**

- Study Design
- study duration
- sample size
- Sampling Technique
- inclusion criteria & exclusion criteria

### **Data collection**

A detailed account of how the researcher will perform research; how s/he will document his variable.

It includes:

- Identification of the study variables
- Methods for collection of data
- Data collection tools (questionnaire with all details of variables and patient verification information)

Give method of conduction of study and data collection procedures for each study variable in detail.

### **Data Analysis Procedure**

Relevant details naming software to be used, which descriptive statistics and which test of significance if and when required, specifying variables where it will be applied.

### **Ethical Considerations**

This must include procedural detail information sheet along with consent form. Researcher must consider all aspects of ethics of medical research.

### **Estimated Cost Of The Project**

Estimated cost if any and declaration certificate of cost to be borne by the researcher

## **Outcome & Utilization**

Outcome of the study what it will help to establish.

## **Plan Of Work**

Use a Gantt chart showing your timeline for research work and completion of your research thesis/dissertation.

## **References**

- Must be in Vancouver Style
- At-least 10 to 15 references,
- use latest (70% should not be older than 05 years)

## **Annexure**

Consent forms in Urdu and English must be study specific.

Study Performa

Collaboration letter if any

Declaration if any

If conducting a clinical trial, include consort flow diagram in data collection section and DRAP and bioethics documents properly filled as per requirements.

## **Format layout of Synopsis**

- Each section of the synopsis must be started on a new page.
- The section in part 1, from "Supervisor's Certificate" up to the list of "Abbreviation", should be serially numbered in Roman number while the rest should be serially numbered in Arabic numerals.
- The synopsis must not contain more than 1000 words. Five hard copies printed on out 80-100 A4 size pages duly tape bind, computer-printed with double space, on one side of each page. Soft copy of synopsis should be send to *mhpe@rmur.edu.pk*
- It must have 3-cm margin, at all 4 sides of each page.
- All pages must have serial numbers at lower right hand corner.
- It must not contain any typographical errors or spelling mistakes.
- The font size should be 12 for body and 14 for headings. Title page main heading should be size 16-18.



# Thesis Writing Guidelines

Developed by R&D Department RMU

Modified by HPE faculty for MHPE candidates

Thesis writing is an essential requirement for all Master's Level Programs at Rawalpindi Medical University. It is a document that contains relevant details of the research work conducted by the MHPE candidates. The objective of writing a thesis is the presentation of scientific research. The candidate is expected to

- Develop a plan of research.
- Collect relevant data.
- Browse through the current literature and review the information available.
- Analyse the results and summarize them in a scientific format.
- Develop skills in technical writing.

The thesis writing cultivates an inquisitive mind, and ability to apply recent research to practice and generate local data and compare it with national and international literature.

## **General Information:**

After the completion of data collection and analysis, thesis writing is the next step. Before the thesis is written down, all sections should be carefully outlined and discussed with the supervisor. The thesis represents original research, the work must be in the context of existing knowledge and theories and free of plagiarism.

- Each section of the thesis must be started on a new page.
- The thesis must contain 10,000 to 15,000 words i.e., about 80-100 pages. (excluding references) Pages should be A4 size pages (80 gm), typed or computer-printed with double space, on both sides of pages.
- It must have 3 cm margins on all sides of the page
- All pages must have serial numbers in the lower right corner.
- It must not contain any typographical errors or spelling mistakes.
- Font size should be 10 for text, 10 bold for subheadings, and 12 bold for headings. Chapter titles should be 14 bold in upper case.
- The font style should be Times New Roman or Arial.
- The text should be printed in double space. However, footnotes, long quotations, and captions for tables and figures can be typed in a single space. References should also be single-spaced (double-spaced between entries).
- In thesis, preliminary pages, from 'title page' till 'list of abbreviations' should be numbered in roman numerals; rest of the thesis should be numbered in English numerals.

**The most common sections and their sequence are outlined below: -**

- Title page
- Certificate of approval (as per given sample)
- Declaration page
- Dedication page; only two to three lines
- Acknowledgement
- Table of contents
- List of tables
- List of figures
- List of Abbreviations
- Section 1: Abstract
- Section 2: Introduction
- Section 3: Literature Review
- Section 4: Methodology
- Section 5: Analysis of data and results
- Section 6: Discussion
- Section 7: Conclusion and recommendation
- Section 8: References (Use Vancouver style referencing)
- Section 9: Appendices

## **Title page**

A title page provides the reader with practical information about your thesis: An illustration of RMU monogram should be at the top of the page followed by,

- The topic of thesis: in bold upper case letters at the top.
- Name of author, in the order of first, middle and last name along with the highest qualification achieved.
- Department name.
- Name of programme/study line.
- Name of the supervisor with his/her highest qualification.  
Date/month /year of submission.

## **Supervisor's certificate**

It should be as per the approved format of the university and duly signed by the supervisor.

## **Declaration page / Dedication page / Acknowledgement**

It is optional. If you want to dedicate your work to someone or you want to declare or acknowledge the contribution of someone in your research work you can use these pages. It should be brief, only in two or three lines.

## **Table of contents**

The table of contents gives the reader a quick overview of your work. The index shows first-level headings and page numbers for each section including annexures. It may also display second and third-level headings (subheadings) if used within each section. The list should be numbered in Roman numbers.

## **List of tables**

If any tables are used, enlist them according to their page number. A table should be on a separate page.

## **List of figures**

If figures are used, enlist them according to their page number.

## **Abbreviations**

It contains all the significant abbreviations used in the thesis.

## Section-1 Abstract

The purpose of the abstract is to help the reader to quickly ascertain the purpose and conclusions of your thesis or in other words to understand why your thesis is important. An abstract is written in past tense, under following headings:

- Introduction
- Objectives
- Materials and Methods
  - Study design
  - Setting
  - Study duration
- Study population (inclusion and exclusion criteria)
- Data collection procedure
- Results
- Conclusion
- Keywords (3-10). Selected key words should be from Medical Subject Headings (MeSH), list of index.

An abstract presents your problem formulation, methods and main results and describes how the thesis makes a difference in your field. An abstract is rarely more than half to one-page long.

## Section-2 Introduction

The introduction chapter needs to state the objectives of the program of research, include definitions of the key concepts and variables and give a brief outline of the background and research approach. The introduction aims to contextualize the proposed research. In the opening paragraph, give an overall view of what is included in the chapter. For example:

*‘This chapter outlines the background (section 0) and context (section 0) of the research, and its purposes (section 0). Section 0 describes the significance and scope of this research and provides definitions of terms used. Finally, section 0 includes an outline of the remaining chapters of the thesis’.*

### Background

Give the background of the problem to be explored in your study and what led you to do this project. For example, you might discuss educational trends related to the problem, unresolved issues, and social concerns. You might also include some personal background.

## **Context**

Outline the context of the study (i.e., the major foci of your study) and state the problem situation (basic difficulty – area of concern, felt need).

## **Purposes**

Define the purpose and specific aims and objectives of the study. Emphasise the practical outcomes or products of the study. Delineate the research problem and outline the questions to be answered or the overarching objectives to be achieved.

## **Significance, Scope and Definitions**

Discuss the importance of your research in terms of the topic (problem situation), the methodology, and the gap in the literature. Outline the scope and delimitations of the study (narrowing of focus). Define and discuss terms to be used (largely conceptual here; operational definitions may follow in the “Research Design” chapter).

## **Thesis Outline**

Outline the chapters for the remainder of your thesis.

### **Section-3 Literature Review**

Review of literature provides background information and rationale for the research. An argument must be built for the research and research question(s)/aims to be presented. International and local literature must be cited logically. Citation should be in Vancouver style. Most of the references should be from the last five years. Older references are also acceptable provided they are relevant and historical.

The literature review chapter should demonstrate a thorough knowledge of the area and provide arguments to support the study focus. The literature review chapter aims to delineate various theoretical positions and from these, develop a conceptual framework for the generation of hypotheses and setting up the research question. The literature review chapter needs to:

- Critically evaluate the literature rather than merely describe previous literature (i.e., what is good/bad about the body of literature?).
- Show a synthesis and be integrated rather than being more like an annotated bibliography.
- Identify key authors and the key works in the area, thus acquainting the reader with existing studies relative to what has been found, who has done work, when and where the latest research studies were completed and what approaches to research methodology were followed (literature review of methodology sometimes saved for the “methodology” chapter).

- Constitute an argument.
- Identify the gap in the literature that is being addressed by the research question.
- Suitable sources for the literature review include:
  - General integrative reviews are cited that relate to the problem situation or research problem such as those found in psychological and sociological reviews of research.
  - Specific books, monographs, bulletins, reports, and research articles – preference shown in most instances for the literature of the last 5 years.

The literature review chapter can be arranged in terms of the questions to be considered or objectives/purposes set out in the Introduction chapter.

Summarise the literature review and discuss the implications from the literature for your study – the theoretical framework for your study. Here you can make an explicit statement of the hypotheses, propositions or research questions and how they are derived from existing theory and literature. Establish from the literature (or gap in the literature) the need for this study and the likelihood of obtaining meaningful, relevant, and significant results. Outline any conceptual or substantive assumptions, the rationale and the theoretical framework for the study. Explain the relationships among variables or comparisons and issues to be considered. This section should demonstrate the contribution of the research to the field, and be stated in a way that leads to the methodology.

#### **Section-4 Methodology**

In this section, you will describe detail of your research methodology. The following items must be included as sub-headings with relevant details.

- Hypothesis
- Objectives
- Operational definitions
- Materials and methods

Discuss the methodology to be used in your study (e.g., experimental, quasi-experimental, correlational, casual-comparative, survey, discourse, case study, analysis, action research). If using stages, outline them here. The methods used must link explicitly to the research question and must be suited to the nature of the question. Discuss any methodological assumptions.

- i. Study design

Outline the research design (e.g., quantitative, qualitative). If quantitative, spell out the independent, dependent and classificatory variables (and sometimes formulate an operational statement of the research hypothesis in null form to set the stage for an appropriate research design permitting statistical inferences). If qualitative, explain and support the approach taken and briefly discuss the data gathering procedures that were [will be] used (observations, interviews, etc.)

ii. Study population/participants

Give details of the participants (were/will be) of your study also include if applicable, sample type and size, reasons for the number selected and the basis for selection).

iii. Inclusion exclusion criteria

iv. Study setting (Name and place where research work was done. Whether it was done in a community, hospital or laboratory.

v. Study duration vi. Sampling technique vii. Size of the sample (If there were groups, mention how many were in each group)

viii. Data collection detail procedure/tools. questionnaire

List and briefly describe all the instruments (e.g., tests, measures, surveys, observations, interviews, questionnaires, artifacts) [to be] used in your study for data collection and discuss their theoretical underpinnings, that is, justify why you used these instruments. So that the line of argument is not broken, it is useful to place copies of instruments in Appendices to which this section can refer.

ix. Analysis details (tests and software used)

This section describes the method/s you used to answer the question(s) raised in your problem formulation. Your information concerning methods should both allow the reader to assess the validity of your results and (particularly for quantitative research) ultimately make it possible for another researcher to get the same results by completing the same work as you.

### **Section-5 Analysis of data**

Discuss how the data was processed and analyzed (e.g., statistical analysis, discourse analysis).

This section needs to link the analysis of the research to the methods and demonstrate why this was the best approach to analysis. For qualitative research, justification needs to be provided for methods such as coding and dealing with divergent data. For quantitative research,

justification of the choice of statistics and the expected results that they will provide should be described. There should be enough detail for the reader to replicate the analysis. For example, “NVivo or SPSS will be used” is not adequate. Rather, the approach to coding, including how categories were derived and validated, how the data was structured, and specific analytical techniques applied, should be included.

### **Section-6 Results**

In this section, you have to report the results of your study – your data and their analysis. Remember that you are not only expected to present raw data, they should be analyzed and presented in an overview for this purpose. You may therefore need to describe very briefly how you collected your raw data and how you processed and analyzed these. Data may be displayed in the form of tables or figures which enables you and the reader to make sense of it, but in a lot of qualitative research, it is merely the explanation in words that constitutes the results. You can put some analysis of the results here, but generally, just the results are presented, without interpretation, inference, or evaluation. The results should be linked inextricably to the design – describe what happened factually and unemotionally. However, in certain historical, case-study and anthropological investigations, factual and interpretive material may be interwoven rather than being presented as “findings”.

Include a paragraph at the beginning of the ‘Results’ chapter outlining the structure of the chapter. The results should be reported to furnish evidence for your research question(s). Thus, you might choose to use headings that correspond to each main question of your hypothesis/objectives and/or your theoretical framework. Or you might organise your results in terms of the stages of the study (if applicable).

Results should mention, the number of subjects at the start of the study, along with the number of subjects who were excluded, dropped out or lost at any point during the study.

Present the findings/results in tables or charts when appropriate, making sure to use correct formatting for any tables used. Data shown in the form of tables/ figures should not be repeated in the text; only important observations should be summarized.

### **Section-7 Discussion**

The discussion is the key section of your thesis. The purpose of the discussion is to explain the central results and potential implications of your study. This is where you scrutinize your results and where the choice of method(s) is discussed including the possible influence of methodological bases and errors on data validity.

The discussion should also address general limitations and weaknesses of the study and comment on these. Importantly, you have to discuss conflicting explanations for your results and defend your thesis argument by systematically relating your problem formulation and empirical findings to the existing body of knowledge and/or theory as outlined by your



literature review. The discussion of your results and final thesis argument should form the basis for your conclusions.

Results of the study should be compared with the published national and international literature and in case a discrepancy is present, it needs to be explained. Similarities and differences between the findings of your study and those of others should be brought out and analyzed.

If your study was based on some hypothesis, mention whether the hypothesis stands supported or refuted by your results. Lastly, mention the importance of your study and its implications for future clinical practice.

### **Section-8 Conclusions**

The conclusions section is where you summarize your answer(s) to the questions posed in your problem formulation. What is the strongest statement you can make based on your findings?

This chapter contains conclusions, limitations, and recommendations – so what is the theory? Where to from here? What are the practical implications? Discussion of where the study may be extended.

Again, the chapter should begin with a summary paragraph of the chapter structure. The opening section(s) of the chapter should be a summary of everything covered so far. Follow this with your conclusions. This is the “so what” of the findings – often the hypothesis/research question(s) restated as inferences with some degree of definitive commitment and generalisability, and the raising of new and pertinent questions for future research. You could include a final model of the theory.

The chapter should also include a discussion of any limitations of the research and should end with your final recommendations – practical suggestions for implementation of the findings/outcomes or additional research.

### **Recommendations or Perspectives: -**

The final section involves the last part of your academic performance; how to launch the results and conclusions into the future. Is there a need for further investigation and how? What are the perspectives of your results and conclusions? The perspectives are where you once again broaden the thesis and point out where your results can be implemented. Recommendations are sometimes included in the conclusions.

### **Section-9 References**

The list of references contains a formalized description of all the sources, e.g., journal articles, reports, books etc. that are cited directly in the text of your thesis. References are numbered

consecutively in order of appearance in the text. In the text, number of reference should be added as superscript at the end of the sentence.

You should apply the referencing system suggested/required by thesis guidelines. Here at RMU, we recommend “Vancouver Standard”.

The referencing can be done using the referencing software. References can be written in single space with extra space between references as in the format below. There are many different ways to arrange the information and punctuation in a reference listing. The most important thing is to make sure all references are complete and that the format of your references is consistent throughout.

At least 50 references should be cited and 50% of the references should be within the last 5 years.

### **Section-10 Annexures**

The following may be attached along with your thesis or submitted to research unit:

- Approved copy of your synopsis
- Certificate of Approval of Board of Advanced Studies and Research
- Ethical review board approval (IRF/ERB)
- Similarity index less than 20% PDF report
- Supervisory certificate
- Study Performa

### **Submission of thesis**

- Five hard copies printed on out 80-100 A4 size pages duly hardbound, computer-printed with double space, on both sides of the page, should be submitted. A soft copy of the thesis should also be sent to [basr.rmu.pk@gmail.com](mailto:basr.rmu.pk@gmail.com).
- After approval of the thesis, the same may be submitted to a medical journal for publication with the name of the candidate as the first author of the article.

# Recommended Books

1. Understanding Medical Education: evidence, theory and practice Edited by Tim Swanwick. 2010. Wiley Blackwell.
2. A practical guide for medical teachers. Edited by J.A.Dent & R.M Harden. 2013.
3. ABC of learning and teaching in medicine / edited by Peter Cantillon and Diana Wood. 2010.
4. Medical Education: Theory and Practice 1st Edition by Tim Dornan PhD DM FRCP  
MHPE (Editor), Karen V. Mann BN MSc PhD (Editor).