RAWALPINDI MEDICAL UNIVERSITY, RAWALPINIDI

DHR CURRICULUM

1 YEAR DIPLOMA PROGRAM

Rawalpindi Medical University

Foreword

Research is a supreme human function and health research has high value to human community. It is an ongoing process, which invigorates human effort to overcome ill health, live better and longer.

Medical education in our country is mostly therapeutic and physician's oriented. Increasing importance of research in healthcare practices and competency in research methods for a doctor is highly debated, deliberated and demanded but it has not given due space in framework. Research has been part of theoretical teachings in most medical teaching institutions of the country without any practicable mechanism for learning and assurance of acquisition of research skills.

Research oriented healthcare providers are able to practice evidence based medicine with more promising treatment outcomes and a positive impact on overall wellbeing of the people. Research is the only portal to provide "evidence" to human health development efforts. Medical profession is by default obligatory to health research. The beginners in health sciences are needed to be invited and equipped with research skills to take up this legacy. Since research plays a key role in the practice of medicine as a profession; a multi-pronged approach needs to be exercised, to best address the health needs of a community

Rawalpindi Medical University leads the way of introducing One year Diploma Course in health research not only for Rawalpindi Medical University Faculty but medical professionals from other universities across the country also have been provided chance to avail this opportunity . Development of Master level courses are next mile stone to be achieved under visionary leadership of Vice Chancellor of Rawalpindi Medical University.

Current Needs &Challenges in Pakistan

Increasing importance of research in healthcare practices and competency in research methods for a medical-professionals is highly debated, deliberated and demanded but it has not given due space in framework of medical career. Much attention has been focused in recent past on scarcity of numbers of physician scientist in our part of world. Unfortunately this problem is aggravated by lack of effective training in health research and it is not possible to resolve this issue without tackling this gap. Since research plays a key role in the practice of medicine as a profession; a multi-pronged approach needs to be exercised, to best address the health needs of a community Discovery-care continuum introduced in academic health institutions played a significant contribution in integration of research in patient care and led to improvement in the health care system. The 'Think much; publish little' dictum was then replaced by a 'Publish or perish' culture. There is a need to produce research-oriented professionals who can generate evidences in improving health systems, act as advocates and champions for addressing the 21st century challenges confronting Pakistan.

Rawalpindi Medical University has spearheaded as a leading medical university in country to pursue for development of an innovative intensive Diploma course in the field of medical research. This programme of study, designed to be flexible and to attract professionals and managers already working in the health sector within Pakistan and the region, provides an opportunity to develop the needed skills and knowledge efficiently and effective.

Message of the Vice Chancellor
Rawalpindi Medical University

As a Vice Chancellor of Rawalpindi Medical University this is moment of real pride for me that my team and dedicated faculty of the Rawalpindi Medical University is working hard to uplift this newly formed public sector medical institution for academic excellence, research and innovation. In spite of very disturbing state of medical education due to Covid-19 pandemic, the Certificate in Health Research (CHR) team has worked hard and successfully completed two batches of six month certificate course . Now the dedicated team is going to launch one year postgraduate Diploma in Health Research (DHR). This course is in improved form, based on experience of CHR and is competitive to such academic work in the region. Rawalpindi Medical University has taken this initiative to promote research capacity of the healthcare providers of this institution and others of the region, hence missing part in generation of new medical knowledge could be played by the talented section of medical community of this region. Research builds up science which has been and will be fundamental in relieving health sufferings of mankind.

I congratulate team on accepting this challenging task and performing with passion & commitment. I expect the learners of this course will employ their learnings in their work settings, so they could share in health development of the people of the region and bring good name to their institution and the country.

Professor Dr. Muhammad Umar
(Sitara-e-Imtiaz Pakistan)
Vice Chancellor
Rawalpindi Medical University

Preface

The Rawalpindi Medical University (RMU)'s Diploma in Health Research program is aimed at the development of health research capacity among health care professionals with the purpose to promote research in health academic institutions and the health care delivery in Pakistan by practicing evidence-based medicine.

The course will provide an opportunity for problems identification & prioritization, review & management of scientific literature, developing a researchable enquiry, preparation of research study proposals, developing work plan, costing research work, documenting, and communicating research findings to the relevant forums. This course has been designed to educate the course participants through practical and hands-on learning mechanisms (experiential learning) in most required areas of health research work. It specifically includes development of tool for collecting research information, primary data collection in real life settings, data handling, inventive examination of the data collected, suspecting and analyzing logical links through use of statistical techniques on computer-based software.

A specific method has been adopted to induce a crave for targeted learning needs in learners. The course will commence through provoking inner learning, learning needs identification & realization by each course participant. The course is so structured that it will ensure involvement of each student in each predefined part of the course curriculum. The course contents are decided as to cover uniform and basics needs health research methods with flavor of other important aspects of health research.

The course will impart the relevant knowledge through direct contact sessions, interactive lectures and tutorials and will constantly challenges the students understanding through assignments and to encourage guided self-leering. The assignments will be specifically aimed at developing writing skills, critical appraisal of published literature, proposal development, undertaking research on the agreed topic, and implementation of the data generated. This is an innovative course, designed to enhance career prospects and professional development of the participants.

The goal of the course is to promote health & wellbeing of the humans over the world and people in the region through capacity building of the medical personnel in ways of generating new

knowledge, exploring remedies to pressing health problems, and innovating science & technologies which can effectively lesson man's sufferings.

Course Director
Dr Khaula Noreen

Course Co-Directors
Dr Sidra Hamid
Dr Farah Pervaiz
Dr Mehwish Riaz

University Vision & Mission

VISION

The Rawalpindi Medical University (RMU)'s Diploma in Health Research (DHR) program is aimed at the development of health research capacity among health care professionals with the purpose to promote research in health academic institutions and the health care system. The development of research capacity is expected to equip the health professionals with knowledge and skills to practice evidence based practice and evidence based decision-making in health care, policy-making and management and public health interventions implementation. The program stresses upon hands-on training to develop knowledge and skills for research problems identification and prioritization, preparation of research project proposals and protocols, searching for literature, preparation of research plans and budgets, research reports and publications writing and reviewing of research proposals and publications.

MISSION

To produce competent research oriented Professionals in community, adequately equipped with the knowledge, skills and attitude deemed necessary to meet the healthcare needs of the community and play a fundamental leadership role in the provision of comprehensive healthcare services through evidence based medicine.

GOAL

We aspire our scholars to be the best researchers in the region, meeting international standards of research with meaningful and effective service to society.

AIM & OBJECTIVES

Aim of Masters in health research is to create center of excellence for our faculty members by establishing intellectual foundation to promote critical thinking and practice evidence based

medicine with the aspiration to improve clinical outcomes, population health and health care services delivery across the world beyond traditional medical care.

STRATEGIC THRUST:

Main strategic thrust was visionary leadership of Vice Chancellor that motivate and inspire faculty members to work towards the common goal.

Promote innovation and research to improve overall health status of the community

- Launching of Diploma program in research with aim of improving patient health and health care delivery system across the country.
- Align collaborative learning and research outcome-based objectives according to the needs of society.
- Develop interdisciplinary research projects to foster overall learning.
- Develop innovative community health needs based research projects to attract research grants.

Develop institutional culture & infrastructure for long term sustainability and acceptability for research

- Collaboration with other institutions (NIH Islamabad, Fatima Jinnah Women University, Quaid-e-Azam University) to promote interdisciplinary research.
- Invitation to eminent faculty members from other institutions to conduct sessions, lectures, research seminars and conferences. Invitation to distinguished researchers to build communities of practice and interdisciplinary connections to enrich research experience.
- Transform medical education with blended research curricula, e-learning technologies, contemporary infrastructure and community based learning
- Active involvement of all stake holders will provide the ground to work in collaboration with other disciplines and foster the multidisciplinary research
- Establish the facility of virtual learning environment including e-learning modalities

Enhance the capability in performing quality research

- Develop the skill of data collection, analysis and interpret it scientifically
- Inculcate lifelong self-directed independent learning.

- Develop the skills in critical evaluation and synthesis of new information.
- Inspire the habit of practicing evidence-based medicine

Setting the standard of excellence in research among medical professionals

- Retain, support and attract the diverse pool of highly motivated faculty for mentorship
- Encouragement & facilitation of participation in research competitions, seminars, symposia and research outcomes publishing.
- Alliance with external faculties & institutions for participation and dissemination of scholarly work at national and international level

Instructional Strategies

Pedagogy

- Instructional strategies will based on potential pedagogical methods to achieve the learning outcomes. Course outlines for each contact session are notified before as prior readings &so participants will come to class with prepared minds, under intimation that their level of prior preparedness on the session topics are judged by questioning at the start & during session and the results are reflected in log-books accordingly
- Participants will be are guided on pre- & post contact sessions work through WBO are provided with learning resources including books, journals and free web based lectures
- Post session assignments / exercises are assigned for comprehending biostatistics.
- White-board & markers, Multimedia projections and other internet based teaching tools & computer based soft-wares are used as teaching aids.
- Constructivist approach shall be used. Problem based learning, hands on training and interactive participatory reflective sessions.
- Lectures – Introduce key concepts, principles and knowledge content for each module
- Workshops for hands on training and developing critical appraisal skills.
- Small group tutorials to develop presentations and discussions skills and encourage group working.
- Interactive plenaries, facilitator led discussions (FLD)
- Facilitator presentations (FP)
- Individual presentations (IP)

- Group tasks (GW)
- Group presentation (GP)

Program Specification

Diploma in Health Research

Diploma in Health Professions Education has been designed to provide health care professionals with an overview of different types of Research, for their capacity building and to enable them to conduct research independently at various forums. The aim of the course is to equip health professionals to practice research across the range of domains in their own settings.

1- GENERAL REGULATIONS

(i) The DHR program comprises of 1 years duration.

(ii) The academic requirements for the DHR degree comprise course work and a thesis based on research.

(iii) Each DHR student shall follow the Syllabi and Courses of Studies as may be prescribed by the Academic Council.

(iv)The candidate shall be awarded the Diploma (DHR) after successful completion of all courses of study, qualifying all examinations and fulfilling all other requirements of the degree (passing exit exam & successful completion of research project).

2- REGULATIONS FOR ASSESSMENT

(i) Participants will be assessed by throughout the year by formative, summative and continuous assessment. Students will be given one or more assignments, which are to be handed in by the end of the module. An earlier date may be set for draft submissions for formative feedback.

(ii) A student shall be allowed to appear in the examination, provided that he/she has been registered by the University during the session and has attended at least 90% of the course work and completed the assignments to the satisfaction of the Department concerned.

3- Course Contents (Session Breakup)

No. of Sessions	**Contact Session details of hybrid program**	**Topic to be covered**
SESSION 1 Last week of January, 2025	Day1(Interactive face to face on campus session) Thursday	**Research Methodology** **An Introduction**
	Day2(Interactive face to face on campus session) Friday	
	Day3(Interactive face to face on campus session) Self- directed learning/ Assignment	
SESSION 2 Mid-March, 2025	Day1(Interactive face to face on campus session) Thursday	**Quantitative Research Methods -1**
	Day2(Interactive face to face on campus session) Friday	
	Day3(Interactive face to face on campus session) Self- directed learning/ Assignment	
SESSION 3 Last week of May, 2025	Day1(Interactive face to face on campus session) Thursday	**Quantitative Research Methods-ll**
	Day2(Interactive face to face on campus session) Friday	
	Day3(Interactive face to face on campus session) Self- directed learning/ Assignment	
SESSION 4 Mid- July, 2025	Day1(Interactive face to face on campus session) Thursday	-**Research proposal Development**

No. of Sessions	Contact Session details of hybrid program	Topic to be covered
	Day2(Interactive face to face on campus session) Friday	
	Day3(Interactive face to face on campus session) Self- directed learning/ Assignment	
Session 5 First week of September, 2025	Day1(Interactive face to face on campus session) Thursday	**Applied Biostatistics**
	Day2(Interactive face to face on campus session) Friday	
	Day3(Interactive face to face on campus session) Self- directed learning/ Assignment	
SESSION 6 Mid-November, 2025	Day1(Interactive face to face on campus session) Thursday	**Qualitative Research Methods** **Advance Research Concepts**
	Day2(Interactive face to face on campus session) Friday	
	Day3(Interactive face to face on campus session) Self- directed learning/ Assignment	
SESSION 7 First week of January , 2026	Day1(Interactive face to face on campus session) Thursday	**Medical Journalism** **Authorship**
	Day2(Interactive face to face on campus session) Friday	
	Day3(Interactive face to face on campus session) Self- directed learning/ Assignment	
SESSION 8 Mid-March, 2026	Day1(Interactive face to face on campus session) Thursday	**Proposal presentation & Wrap-up session**
	Day2(Interactive face to face on campus session) Friday	

No. of Sessions	Contact Session details of hybrid program	Topic to be covered
	Day3(Interactive face to face on campus session) Self- directed learning/ Assignment	

S.no	1st Contact Session	2nd Contact Session	3rd Contact Session	4th Contact Session	5thContact Session
	Research Methodology An Introduction	**Quantitative Research Methods-1**	**Quantitative Research Methods-2**	**Research proposal Development**	**Applied Biostatistics**
	DAY 1	**DAY 1**	**DAY 1**	**DAY 1**	**DAY 1**
	Meaning of Research Objectives of Research Motivation in Research Significance of Research	• Different types of study designs • Different types of observational study designs • Observational Studies • Case reports • Case series • Cohort Studies • Case-Control Studies • Ecological studies	• Different types of sampling techniques • How to select sampling technique according to type of study • Basic concept of Sample Size Estimation • Determination of Sample Size through the software	• Essentials of writing project summary • Essentials for the Introduction • Essentials for writing Methodology • Essentials for writing outcome and utilization of project	• Descriptive statistics • Hands-On SPSS Data Analysis of all projects
	DAY 2	**DAY 2**	**DAY 2**	**DAY 2**	**DAY 2**
	Defining the Research Problem Selecting the Problem Necessity of Defining the Problem	• Basic Principles of Experimental Design • Randomized Control Trials • Overview of Proposal Development	• Testing of Hypotheses • What is a Hypothesis Basic Concepts Concerning Testing of Hypotheses • Procedure for Hypothesis Testing	• Formulation of Independent application based Research proposal • Presentation of Research Projects	• Inferential statistics • Hands-On SPSS Data Analysis of all projects

			• Tests of Hypotheses		
	Home Task: Self- directed learning/ Assignment				
	DAY 3 Presentation & Discussion on Assignment	Proposal Presentation & Discussion on Assignment	Proposal Presentation & Discussion on Assignment	Presentation & Discussion on Research Proposals	Presentation & Discussion on Assignment
	6th Contact Session	**7th Contact Session**	**8th Contact Session CONCLUDING SESSION**		
	Qualitative Research Advance Research Concepts	**Medical Journalism**	**Proposal Presentation**		
	DAY 1	**DAY 1**			
	• Introduction to module and qualitative research • Types of Qualitative studies • Ethnographic Designs • Narrative Research Designs • Mixed Methods Designs • Action Research Designs • Experimental Designs • Correlational Designs • Grounded Theory	• Why write research articles? • Planning a research • Manuscript writing • Getting your work published • What to do with a published • Authorship	Presentations of Developed Proposals		
	DAY 2	**DAY 2**	**DAY 2**	**DAY 2**	**DAY 2**

	Qualitative data collection techniques In-depth Interviews and focus group practice Qualitative Data Analysis	Signup of websites ORCID (https://orcid.org/) Research Gate (https://www.researchgate.net/) Publons (https://publons.com/) Linkedin (https://www.linkedin.com/) Reference Management Hands on session on Reference Management Software	Presentation & Discussion on proposed project
	Home Task: Self- directed learning/ Assignment		
	DAY 3 Presentation & Discussion on Assignment	Presentation & Discussion on Assignment	**Final Assessment**

THE PROGRAM STRUCTURE

Quantitative research methods

Name of Module: Quantitative research methods –

Parent Department: Community Medicine & Public Health Dept, RMU

Lead Department –Community Medicine & Public Health Dept, RMU

Contact session: CS-2& CS-3

I. **Contact sessions overview:** This course introduces the student to the principles and basic methods of modem epidemiology. Epidemiology is defined as the study distribution and determinants of health related states and events in defined populations and the application of this to study to solving public health problems. Presentation of epidemiologic data and basic measures of disease frequency are covered. Descriptive, analytical and interventional study designs are discussed in context to the health system with their corresponding analysis techniques. The concept of risk and its associated measures is also covered. It also covers the estimation and interpretation of odds ratio, attributable risk and their confidence intervals.

II. **Learning Objectives** Upon completion of this course, students will be able to:

- To have a clear understanding of the definition and uses of epidemiology and appreciate its role in public health
- To be able to identify the key sources of data and have the ability to draw appropriate inferences from them

- To understand the concept and practical application of various measures such as: measures of disease frequency (prevalence and incidence), measures of effect (e.g. rate/risk ratios and rate/risk differences), and measures of public health impact (e.g. population attributable risk / fraction)
- To know the various types of epidemiological study designs and, understand their basic principles and the main analytic methods used in each specific design
- To understand the concepts of epidemics, endemics and pandemics with a knowledge of data collecting techniques and analysis to be performed
- Ascertain causality between an exposure and an outcome

Basic & Applied Biostatistics

Name of Module: Introduction to Basic & Applied Biostatistics

Parent Department: Community Medicine & Public Health Dept, RMU

Lead Department –Community Medicine & Public Health Dept, RMU

Contact session: CS-4

Contact Sessions overview:

This module aims to develop knowledge and skills for processing and statistical analysis of health research data and the use of research generated evidence in medical practice and decision-making. The students are expected to develop an understanding of selecting and applying appropriate statistical methods for different research designs and of critically appraising the evidence and translating.

Contents

- Basic data types, distributions and analyses, estimation of confidence intervals
- Sample size calculation
- Hypothesis testing – statistical tests for demonstrating differences, associations and cause and effect relationships
- Parametric and non-parametric tests for comparisons
- Correlations and regression

- Statistical Power- type I and II errors, calculating power
- Effect size calculation-Odds ratio and Relative Risk
- Evidence-based Medicine
- Evidence Based Medicine: concept and application
- Identifying evidence: resources and their limitation

Introduction to the Principles and Practice of Clinical Research Module

Name of Module: Introduction to the Principles and Practice of Clinical Research –

Parent Department: Community Medicine & Public Health Dept, RMU

Lead Department –Department of Pharmacology & Therapeutics, RMU

Contact session: CS-6 & CS-7

I. **Contact Sessions overview:** Clinical Research module is developed to facilitate the vision of excellence in clinical research through development of policies, procedures, and training that optimize resource utilization and facilitate partnerships between the intramural and extramural communities.

To carry out this mission, the goals of the module is to ensure high quality of science and clinical research, by development of processes for:

- Scientific review of all intramural clinical protocols;
- Prioritization of the clinical trials portfolio at RMU ;
- Collaborative partnerships to leverage special capabilities;
- Data management and data sharing; and
- Development and maintenance of training programs to facilitate the performance of rigorous and reproducible clinical research.

II. **Learning Objectives**

- Provide an overview of basic bio-statistical and epidemiologic methods involved in conducting clinical research.

- Describe the principles involved in the ethical, legal, and regulatory issues in clinical human subjects research, including the role of Institutional Review Boards (IRBs).

- Describe principles and issues involved in monitoring patient-oriented research.

- Describe the infrastructure required in performing clinical research and the steps involved in developing and funding research studies.

Qualitative Research Techniques

Name of Session: Qualitative Research

Parent Department: Community Medicine & Public Health Dept, RMU

Lead Department –Institute of Psychiatry, RMU

Contact session: CS-8

Module overview

This module explores the role of qualitative research methodologies in health services research, and considers the different types of research questions that can be addressed using the range of qualitative methods available. The module offers a framework in which to assess quality in research design and conduct, and how this is applied to qualitative research. There is an emphasis on using reflexive understanding as a means of generating theoretically informed and practically grounded qualitative research. This mix of theoretical and practical debate is a particular feature of the course and all aspects of research design are discussed.

The more formal aims are to:

- Familiarise students with current theoretical debates about the philosophical origins of qualitative research
- Enable students to understand the value and purpose of different qualitative approaches and assess their appropriateness for answering different types of research questions
- Provide students with the knowledge and skills to design, conduct and appraise qualitative research
- Introduce students to a broad range of qualitative methods, including different and emerging approaches in the use of qualitative methodologies
- Establish the importance of adopting ethical, robust, transparent and rigorous methodological strategies in a way that encourages reflexive reconciliation

Module objectives

By the end of this module, students will be able to:

- Understand the epistemological and ontological assumptions informing qualitative methodologies
- Define the types of research questions that can be appropriately addressed using qualitative methodology
- Understand how to design a qualitative study and the factors that need to be considered for this
- Explore the range of qualitative techniques for collecting data and know the circumstances under which they are likely to be successful
- Understand the process of qualitative analysis
- Critically evaluate the conduct and quality of qualitative research
- Discuss the multi-faceted nature of reflexivity and apply such understanding to research practices
- Understand the role of qualitative research methods in systematic reviews, trials and mixed methods research

Evaluation plan

Course grading scheme –

- Formative
- Summative
- Continuous

Activities	**Marks Break up**
Log- Book	**10%**
Formative assessment **30%** End of each module assessments & grading (Department based)	
Summative assessment **60%- Compulsory**	
•End of semester university exam (Controller of examination RMU) •DME RMU	

DIPLOMA IN HEALTH RESEARCH – DHR
(LEADING TO MASTER'S IN HEALTH RESEARCH (MHR)

Proposed Training Model

Course breakup	Modules heads	Submodules Major heads	Parent department	Partner Department	Mode of teaching HYBRID	Assignments	Research project proposal development work	Assessments formative	Final assessments
1	Quantitative research methods - I	• Introduction to Health research - overview • Historical purview & future needs in country perspectives • Research question development • Literature search & review & relevant computer skills & programs • Basic biostatistics level-I • Study designs • Sampling overall , sample size calculations • Research proposal writing	• Community Medicine dept. • Research Unit RMU. All Specialized faculty	• Research Unit RMU • IT department RMU • Librarian RMU • Gynae Department RMU • Biostatistician RMU • School of Nursing RMU Adjunct Faculty 1. PASTIC ISD 2. HSA 3. Visiting Faculty	4 (3-4) consecutive days on campus contact session 8.30AM to 2.30PM Plus need & opportunity based e-learning	• Individual Realtime assignments • Compulsory assignments • Grads will be part of IA	Search research questions and review research questions with dedicated subject based and Research Unit, URTMC and Parent department /CM Virtual contact & physical meetings	• Daily administrative assessment* during CS. • Assignments administrative & Contents ranks based assessment**	End of Module Assessment.
2	Quantitative research methods -II	• Intro to Epidemiology • Biostatistics level-II • Data collection methods (techniques & Tools) • Inferential statistics • Data analysis • SPPS & STRATA • Research reporting / medical writing	Community Medicine Research Unit RMU All Specialized faculty		4 consecutive days on campus contact session 8.30AM to 2.30PM Plus need & opportunity based e-learning	• Individual Realtime assignments • Compulsory assignments Grads will be part of IA	Prime research proposal draft development	• Daily administrative assessment* during CS. Assignments administrative & Contents ranks based assessment**	End of Module Assessment.
3	Quantitative research module -III	• Pharmacy research • Lab research methods • Research in basic sciences • Clinical research / clinical trial • Field epidemiology / population-based research	Community Medicine Research Unit RMU All Specialized faculty	• Pharmacology department RMU • Pathology/Physiology/Anatomy Department RMU • Medicine Department RMU / CTU Adjunct faculty • Pharmacy dept QAU ISD • Pharma-industry Faculty • NIH ISD	4 consecutive days on campus contact session 8.30AM to 2.30PM Plus need & opportunity based e-learning	• Individual Realtime assignments • Compulsory assignments Grads will be part of IA	Review & Approval of final research proposal by URTMC / Research Unit RMU	• Daily administrative assessment* during CS. Assignments administrative & Contents ranks based assessment**	End of Module Assessment.
4	Qualitative research	• Research in social sciences • Qualitative research techniques	Community Medicine Research Unit RMU All Specialized faculty	• Department of Psychiatry RMU Adjunct faculty • FJWU RWP	4 consecutive days on campus contact session 8.30AM to 2.30PM Plus need & opportunity based e-learning	• Individual Realtime assignments • Compulsory assignments Grads will be part of IA	Approval of research proposal draft by IERF	• Daily administrative assessment* during CS. Assignments administrative & Contents ranks	End of Module Assessment.

								based assessment**	
5	**Advance research -I**	• Primary concepts • Advance statistics & relevant computer software • Medical editorial ship / journalism • Systematic reviews and metanalysis techniques • Medical research in Pakistan perspectives	**Community Medicine Research Unit RMU All Specialized faculty**	**Editorial Board JRMC Editorial Board SJRMC RSRS NIH ISD**	**4 consecutive days on campus contact session 8.30AM to 2.30PM** **Plus need & opportunity based e-learning**		**Defence of Research proposal by a board of examiners**	• Daily administrative assessment* during CS. **Assignments administrative & Contents ranks based assessment****	**End of Module Assessment.**
6	**Advance research -II**	**---**			**Virtual with national and international Partners / WHO**				**Exit exam**

CHR Comprehensive Assessment Markers

(Requirements for successful completion of the course)

#	R. No	Name	a. Log book (10%)	b. Exit Exam (Max Total Marks=100) (Passing % = 60% in aggregate)			c. Internal Assessment (30%)				Remarks
				SEQs+ EMQs (50+10)	MCQs (20)	OSDASE*	Punctuality (5)	Active participation (5)	Assignments credit (2 per semester) (7.5+7.5=15)	Discipline (5)	Total Max marks= 120
				Max Marks 80 (total)		Max Marks 20	Max Marks 20				Passing marks= 72 in total out of 120
#	1										

a. **Log book :** Regular monitoring of log book will be done by faculty member of respective department **and student will be signed off on regular basis**

b. **Exit Exam:** Comprise 5 SEQs Questions each carrying ten max marks, two EMQs each carrying five max marks and twenty MCQs carrying twenty marks in total.

OSDASE*: "Objectively Structured Data Analytical Skills Examination" (OSDASE). Student's skills for research data analysis will be assessed under various pre-designed databased queries. It may be a computer-based examination. It will be an interactive assessment. Students will be awarded marks out of max marks 20, under a

pre-decided key. Exam will be conducted by a nominated faculty by academic board of MHR/Controller of examination RMU.

c. **Internal assessment** :

It will be awarded under four components

1. **Punctuality:** Regularly attending all the sessions scheduled by the faculty will be considered as mandatory. Attendance record will be maintained and monitored strictly . Missing a session without prior written permission will be graded as absent. 80% attendance will be considered as mandatory eligibility requirement to appear in exit exam.
2. **Active-participation:** it includes raising logical & relevant queries which make facilitator to disclose more knowledge and the discussion add up understanding of all the participants. Credit will be awarded by the nominated faculty / teaching faculty. Active participation throughout the course is a compulsory requirement. A deficiency if any, will have to cover as decided by MHR Core team / Academic Board.
3. **Assignments credit:** Credit will be awarded by the concerned Faculty according to student's performance in the assigned work. Credit will be awarded by the concerned CHR faculty. Its record will be maintained. Assignment credit will be awarded as part of continuous assessment .
4. **Discipline:** harmonious attitude &behavior of the student with the MHR teaching faculty, staff and other course mates. Observance of classroom and other learning ethics will be considered accordingly. Credit will be awarded by the concerned faculty. In any discredit will be documented under evidence.

ANNEXURES

SELF RECTED LEARNING (SDL) RESOURCES

Suggested reading sources;

- Text Book of Public Health & Community Medicine by Muhammad Ilyas, Muhammad Irfanullah Siddique
- Text Book of Preventive & social Medicine by K Park
- Short Book of 'Research Methodology and Biostatistics" by Prof. Sira Afzal
- Biostatistics & Research Methods by Muhammad Ibrahim
- WHO: Eastern Mediterranean Region; Practical Guide for Health Researcher Srviers-30.
- USMLE- High Yield Biostatistics
- Basic statistics for health sciences by Jan W. kuzma
- Essentials of medical statistics by Batty R. Kirkwood
- Methods in Biostatistics for Medical students & research workers by BK Mahajan
- Statistics in Clinical Practice: By David Coggon
- Oxford Handbook of Clinical Medicine (10^{th} Edition)
- Current Medical Diagnosis & Treatment (2019)
- Gordis, L. (2008). Epidemiology.4th ed. Philadelphia, PA: WB Saunders Company
- Ritchie, J and Lewis, J: Foundations of Qualitative Research, 2013
- Pool, R & Geissler, W. Introduction to Medical Anthropology, 2005
- Braun, V, Clarke, V: Successful Qualitative Research: a practical guide for beginners, 2013
- Berg, B. L. & Lune, H. Qualitative Research Methods for the Social Sciences, 8th edition, Boston: Pearson, Allyn & Bacon.2012
- Creswell, J. W., Qualitative inquiry and research design, 2rd edition. Sage Publications. 2013.
- Maxwell, J.A. Qualitative Research Design. Sage Publications, 2nd edition, 2013

LINKS FOR AUDIOVISUAL SELF-DIRECTED LEARNING

- Committee on Publications Ethics (COPE) http://publicationethics.org/
- The University of Southern Mississippi's Plagiarism Tutorial http://tinyurl.com/3mnkfl
- How to Recognize Plagiarism https://www.indiana.edu/~istd/
- Ethics of research and publication http://www.elsevier.com/ethics/home

Search Engines and Data bases

- PubMed/ Medline https://www.ncbi.nlm.nih.gov/pubmed/
- PubMed Central https://www.ncbi.nlm.nih.gov/pmc/
- Scopus https://www.elsevier.com/solutions/scopus
- Sci-Hub (for free Full Text access) http://sci-hub.tw
- Ovid Databases http://www.ovid.com/site/catalog/databases/index.jsp
- Directory of open access Journals http://www.doaj.org/
- Google Scholar www.googlescholar.com
- MedIndia (Indian Medical Journals Data base) www.medindia.net
- Bangladesh Journals OnLine www.banglajol.inf