INTEGRATED UNDERGRADUATE RESEARCH POLICY DOCUMENT (DFA-1)

(2022-23)

HITEC

Institute of Medical Sciences Taxila

DEPARTMENT OF COMMUNITY MEDICINE

HITEC-IMS, TAXILA

1. STATEMENT OF INTENT:

With advent of Evidence Based Practice over last two to three decades in medical science, merging the best research evidence with good clinical expertise and patient values is inevitable in decision making process for patient care. Therefore, apart from receiving per excellence knowledge of the essential principles of medicine and necessary skills of clinical procedures, the students should also be well versed and skillful in research methodologies. So, the training in research being imperative is integrated longitudinally in first four year's training tenure of the students.

The purpose of the research training is to provide optimal knowledge and skills regarding research methods and critical appraisal. The expected outcome of this training is to make students dexterous and proficient to practically conduct quality research through amalgamation of their knowledge, skills and practice in research methodologies.

2. PURPOSE:

This policy provides the framework for conduction of undergraduate researches by students of HITEC-IMS according to the NUMS and PMC curriculum. It communicates the principles that govern the practices related to teaching and learning, academic and administrative support and publication of undergraduate research projects.

3. SCOPE:

This policy is applicable to all students, faculty members of Department of Community Medicine and faculty of HITEC-IMS, supervising the undergraduate research projects and to all the stakeholders under the authority of HITEC-IMS.

4. DEFINITIONS:

The definitions below shall apply to this policy.

4.1. IURM: Integrated Undergraduate Research Module. This module is based on NUMS and PMC curriculum. Distribution of hours from 1st to 4th Year MBBS are according to revised NUMS curriculum for 2021-22 for each year.

4.2. RESEARCH BATCH (RB): Group of 25 students, place in Department of Community Medicine during 3rd and 4th Year MBBS (Whole class is divided in 4 research groups, 25 students in each batch). Each research batch (RB) will be divided in further two groups (1 and 2) and two researches will be conducted by each batch (12 or 13 students per group).

4.3. JUNIOR RESEARCH SUPERVISOR (JRS): A lecturer from department of Community Medicine will supervise one batch each. He/ She will be responsible for students' achievement of research project goals according to set timeline and assign tasks to research batch participants to ensure equal contribution and team work from each. He/ She will evaluate student's participation and maintain record.

4.4. SENIOR RESEARCH SUPERVISOR (SRS): Each research batch and junior research supervisor will be supervised by SRS, an Assistant Professor, Associate Professor or Professor. He/ She will guide JRS directly regarding research projects and finalize the research topics and questionaries.

4.5. CO-SUPERVISOR FROM OTHER SPECIALITIES: Since undergraduate researches have to be completed during assigned duration for formative and summative assessment. Faculty members fulfilling the following criteria can co-supervise student research projects:

I. Should be an Assistant Professor or above from the relevant department according to study topic.
II. Must be able to spare enough time to supervise research related tasks according to scheduled time table.
III. Must keep record of student's activities, attendance and completion of tasks.
IV. Must assess students according to evaluation proforma periodically.
V. Coordinate with Department of Community Medicine regarding feedback of student's performance and formative assessment.
VI. Pursue publication of supervised research project.

4.6. HOUSE HOLD SURVEY (HHS): Pilot project of community based house hold survey conducted by students individually in 3rd Year MBBS.

4.7. GROUP RESEARCH PROJECT: Complete research project conducted by students in 4th Year. However, the students will complete their synopsis and get it approved from Ethical Review Board in 3rd Year MBBS.

4.8. ETHICAL APPROVAL: All researches will be conducted after getting ethical approval from Institutional Ethical Review Board.

5. RESPONSIBILITIES

5.1. JUNIOR RESEARCH SUPERVISOR (JRS):

i. Will be responsible for arranging the teaching activities according to scheduled time table, maintain and compile attendance of respective research batch.
ii. Will divide research batch into two groups, maintaining the uniformity and interest of students in specific research topic/project.
iii. Select group leader from each subgroup and involve each student in research topic selection.
iv. Discuss the different research topics initiated by students and will finalize one feasible topic for each group of research batch with mutual consensus.
v. Discuss final topic with Senior Research Supervisor and get approval.
vi. Supervise students research project related activities in class room, IT lab, library and in field.
vii. Responsible for guiding students in getting Ethical Approval from Ethical Review Board of HITEC-IMS in 3rd Year.
viii. Will supervise the same batch in 4th Year and will be responsible for timely completion of research project according to set timeline.
ix. Assist SRS in conducting SPSS and Mendeley workshops for students.
x. Guide students in preparing final power point presentation and get article written by each group according to indexed Journals.
xi. Get research completion certificates printed and signed for distribution to students on day of presentation.
xii. Coordinate and supervise batch for national/ international level research competitions.
xiii. Keep record of SPSS data, power point presentation and article both in hard and soft form.
xiv. Lead and guide students regarding plagiarism, submission and publication process.

xv. Will be the first author in research publication of supervised group.

5.2. SENIOR RESEARCH SUPERVISOR (JRS):

i. Will directly supervise the JRS in topic selection, finalization and development of research questionnaire.
ii. Get report from JRS regarding completion of research targets according to decided timeline.
iii. Supervise the synopsis writing, submission and ethical approval of supervised researches.
iv. Conduct SPSS and Mendeley workshops for students.
v. Train JRS for independent conduction of these workshops.
vi. Help JRS and group in getting questionnaire validated if required.
vii. Guide JRS regarding appropriate data analysis according to study objectives.
viii. Review and approve each component of article during article writing phase.
ix. Coordinate with HOD for final research presentation and distribution of certificate.
x. Disseminate information regarding undergraduate research competitions and prepare students for competition.
xi. Get feedback from JRS regarding publication of article.
xii. Maintain record of projects supervised and published.

6. PUBLICATION OF RESEARCHES:

i. Each batch will submit their data (hard and SPSS file), research article, power point presentation to respective batch in charge (Hard and soft copies) after completion of research project.
ii. JUNIOR or SENIOR RESEARCH SUPERVISOR will correspond with editor of Journal in which the article will be submitted.
iii. Out of two researches for each batch, JRS and SRS will be responsible for publication of one article each.
iv. JRS or SRS will be the first author and names of the subsequent authors will be decided amongst students according to their contribution in whole process.
v. Undergraduate researches will be owned by the Department of Community Medicine and no student is allowed to get it published in individual capacity.
vi. Students not pursuing publication process within 6 months of passing 4th Year professional examination would not be eligible to claim for data or publication.
vii. Publication fee will be equally divided among first six authors.
viii. Conflict of interest will be communicated to journal in case of violation by students or faculty.
ix. All published articles will be submitted to Research Cell and Library of HITEC-IMS.

7. PLAN OF TEACHING:

Integrated Undergraduate Research Module (IURM) will comprise of three components:

1. **THEORETICAL PART:** (Covered in First and Second Year MBBS)
2. **PRACTICAL PART:**
    - **I. Third Year:**
        - Individual Pilot study in form of survey of 10 house holds
        - Completion of proposal writing for Group Research Project
    - **II. Fourth Year:**
        - Completion of Group Research Project
3. **PUBLICATION:** Students have to pursue publication of group research under supervision of supervisor.

Annexure "A": IURM (Integrated Undergraduate Research Module)

8. EVALUATION:

Structured proforma will be used to evaluate students. Research module will be evaluated on attainment of learning outcomes by each research group. Student's feedback will be obtained after completion of projects and results compiled will be incorporated to make necessary changes.

Annexure "B": Students Evaluation Form

HITEC-INSTITUTE OF MEDICAL SCIENCES

RESEARCH CELL

Students Elective Course on "Quantitative Research Methods"

Course Director: _____
Course Moderator: _____
Venue: zoom sessions online

DAY	TIME	SESSIONS	FACILITATOR
Week 1			
Day 1	9:30-10:00 am	Introduction of facilitators and Pre-test	
	10:00-11:00 am	Introduction to Hypothesis Testing	
	11:00-12:00 pm	Type I & Type II Errors and Power of Study	
	12:00-12:15 pm	Break	
	12:15-01:00 pm	meeting with respective supervisors Identify a Research Question with hypothesis for individual research projects	
Day 2	10:00-11:00 am	Inference regarding means: One Sample and two independent sample T-Test	
	11:00-12:00 pm	*Tutorial*	
	12:00-12:15 pm	Break	
	12:15-01:00 pm	Internal and External Validity	
Day 3	10:00-11:00 am	Inference regarding proportions: Chi-square and McNemar test	
	11:00-12:00 pm	Tutorial Chi-Square and McNemar	
	12:00-12:15 pm	Break	
	12:15-01:00 pm	Meeting with respective supervisors Identify study variables	
Day 4	10:00-11:00 am	Sample size calculation & Plan of analysis	
	11:00-12:00 pm	Tutorial: Sample size calculation & Plan of analysis	
	12:00-12:15 pm	Break	
	12:15-01:00 pm	Sampling Methodology	
Day 5	10:00-11:00 am	Study Designs	
	11:00-12:00 pm	Tutorial	
	12:00-12:15 pm	Break	
	12:15-01:00 pm	Meeting with respective supervisors Literature review for individual research projects	
Week 2			
Day 6	10:00-11:00 am	Data collection Tools and Questionnaire Development	

	11:00-12:00 pm	Data collection Methods	
	12:00-12:15 pm	Break	
	12:15-01:00 pm	Meeting with respective supervisors Data Collection Tool and Methods for individual research projects	
Day 7	10:00-11:00 am	Writing Research Methods	
	11:00-12:00 pm	Self-work	
	12:00-12:15 pm	Break	
	12:15-01:00 pm	Meeting with respective supervisors Review of work	
Day 8	10:00-11:00 am	Writing Introduction and References	
	11:00-12:00 pm	Writing Results and Discussion	
	12:00-12:15 pm	Break	
	12:15-01:00 pm	Meeting with respective supervisors Writing Introduction for individual projects	
Day 9	10:00-11:00 am	SPSS session-1	
	11:00-11:15 am	Break	
	11:15-12:15 pm	SPSS session-2	
	12:15-01:00 pm	Meeting with respective supervisors Work on Synopsis	
Day 10	10:00-11:00 am	Use of Mendeley	
	11:00-12:00 pm	Presentations of synopsis by participants	
	12:00-12:15 pm	Break	
	12:15-01:00 pm	Post-test and final concluding session	

Course designed by Dr. Bushra Anwar, Research Coordinator, HITEC IMS