



**Jordan University of Science and Technology**  
**Faculty of Medicine**  
**Doctor Of Medicine (Md) Department**

MED183 Introduction To Research And Evidence Based Medicine

Second Semester 2022-2023

**Course Catalog**

3 Credit Hours. This undergraduate course delineates the essential concepts of research and Evidence-Based Medicine (EBM), information mastery, and critical appraisal of the medical literature. It is intended for first-year medical students as an introduction to research concepts and builds up skills to be familiar with research design, analysis, interpretations of results, and applications in medical practice and science in both the medical and public health fields.

**Text Book**

<b>Title</b>	RESEARCH METHODOLOGY: a step-by-step guide for beginners.
<b>Author(s)</b>	Ranjit Kumar
<b>Edition</b>	3rd Edition
<b>Short Name</b>	Ref#1
<b>Other Information</b>	

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
Ref#2	How to Read a Paper The basics of evidence-based medicine	Trisha Greenhalgh	4th Edition	
Ref # 3	Research design : qualitative, quantitative, and mixed methods approaches.	John W. Creswell.	4th Edition	
Ref # 4	HEALTH RESEARCH METHODOLOGY A Guide for Training in Research Methods	WORLD HEALTH ORGANIZATION	2nd Edition	

**Instructor**

Name	<b>Dr. Muhammad Alshyyab</b>
Office Location	M3 L-0
Office Hours	

Email	maalshyyab7@just.edu.jo
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Class Schedule & Room
<p>Section 1: Lecture Time: Mon, Wed : 17:00 - 18:00 Room: U</p> <p>Section 2: Lecture Time: Sun, Tue : 17:00 - 18:00 Room: U</p> <p>Section 3: Lecture Time: Mon, Wed : 17:00 - 18:00 Room: U</p> <p>Section 4: Lecture Time: Sun, Tue : 17:00 - 18:00 Room: U</p> <p>Section 5: Lecture Time: Sun, Tue : 18:00 - 19:00 Room: U</p>

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Introduction to research in medicine	From <b>Ref#1</b>
Week 2	Research process: Formulating a research problem Reviewing the literature.	From <b>Ref#1</b>
Week 3	Research process: Formulating a research problem. Identifying variables	From <b>Ref#1</b>
Week 4	Research process STEP II: Conceptualizing a research design; The research designs; Selecting a study design.	From <b>Ref#1</b>
Week 5	Research process STEP III: Constructing an instrument for data collection	From <b>Ref#1</b>
Week 6	Research process STEP III: Constructing an instrument for data collection	From <b>Ref#1</b>
Week 7	Research process: STEP IV Selecting a sample.	From <b>Ref#1</b>
Week 8	Research process: STEP V Writing a research proposal.	From <b>Ref#1</b>
Week 9	Research process: STEP VI Collecting data; Considering ethical issues in data collection.	From <b>Ref#1</b>

Week 10	Research Process: STEP VII PROCESSING AND DISPLAYING DATA ; Processing data; Displaying data; Research Process: STEP VIII WRITING A RESEARCH REPORT Writing research report; Research methodology and practice evaluation	From <b>Ref#1</b>
Week 11	Introduction to principles of Evidence-Based Medicine (EBM)	From <b>Ref#2</b>
Week 12	How to Read a Paper: The basics of evidence-based medicine; Papers that tell you what to do (guidelines), Papers that tell you what things cost (economic analyses), Papers that go beyond numbers (qualitative research), Papers that report questionnaire research, Papers that report quality improvement case studies.	From <b>Ref#2</b>
Week 13	How to Read a Paper: The basics of evidence-based medicine; Statistics for the non-statistician, Papers that report trials of drug treatments and other simple interventions, Papers that report trials of complex interventions, Papers that report diagnostic or screening tests, Papers that summarise other papers (systematic reviews and meta-analyses),	From <b>Ref#2</b>
Week 14	Application of evidence (EBM) in medical practice The purpose of evidence-based medicine	From <b>Ref#2</b>
Week 15	Evidence-based medicine process; Systematic flaws in the generation of evidence: ?Poor medical research?	From <b>Ref#2</b>
Week 16	Knowledge Resources: handling information explosion and bias; Medical Journal articles and credible websites.	From <b>Ref#2</b>

<b>Mapping of Course Outcomes to Program Outcomes</b>	<b>Course Outcome Weight (Out of 100%)</b>	<b>Assessment method</b>
Identify, understand, and critique the contribution that evidence provides to the best health care practice from the latest research.	15%	
Drawing on knowledge and skills of research methods and processes, student will learn to appraise research, complete a literature review and develop a research question or clinical problem relevant to a professional interest.	15%	
Critically discuss the philosophical underpinnings, purpose, methods and quality of research approaches used in contemporary medicine contexts.	15%	
Discuss the principles of research conduct that minimizes risk and promotes quality outcomes.	15%	
Critically appraise and synthesize research evidence, analyzing the quality and limitations of various research design approaches.	15%	
Critically appraise research studies guided by evidence-based medicine.	15%	
Evaluate evidence to justify either the implementation of a practice change or a research project proposal	10%	

<b>Relationship to Program Student Outcomes (Out of 100%)</b>		
SO1-ES	SLO2	SLO8

Evaluation	
Assessment Tool	Weight
Midterm Exam (MCQs)	50%
Final Exam (MCQs)	50%

Policy	
Teaching approach	The course will be online. It will be delivered through Asynchronous attendance lectures, contemporary readings, and journal articles. Lectures may include videos intended to supplement the course Intended Learning Outcomes (ILOs) by providing additional perspectives on the issues involved or variations and applications of topics. Recorded PowerPoint presentations lectures will be available on your e-learning platform (Moodle).
Cheating	Cheating is not tolerated, and it is against the university rules. Cheating will result in failing the course and reporting the incident to the dean.

Date Printed: 2023-11-14