Jordan University of Science and Technology

Faculty of Medicine
2018-2019

COURSE TITLE :	**Research**
COURSE CODE :	**MED 420**
CREDIT HOURS :	**1 CREDIT HOURS**
SEQUENCE :	**YEAR 4, 2 WEEKS**
COURSE COORDINATOR:	**Dr. ABDULAHEEM M OKOUR**
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Course Description

This course is tailored for medical students to work on and defend a thesis in the various fields of medicine. This is a process-oriented course that integrates reading, active searching, writing, and oral presentations of scientific material. The student will carry out a research project on a medical topic of her/his interest. Apart from the thesis, the student must compile a portfolio with all the drafts, notes about the texts read, instructor's feedback, research proposal, literature review, class activities, and any written work done for the project such as outlines, book reviews, etc. The student will also present the results of each stage of work to the instructor/research committee and the other students in the group. Other members of the University community may be invited to the presentations. The thesis is expected to conform to appropriate standards of scholarship. Additionally, the student will engage in a series of class activities aimed at helping development of student's reading, research, writing, and presentation skills.

Students will register for the course and be assigned for a research project and a research committee in the Second term of the fourth year, and will have to work actively on accomplishing the research aims and objectives in the next years. Final thesis submission and defense will be held during the

designated Obstetrics and Gynecology rotation in the sixth year.

Student Learning Outcomes(SLOs) Upon successful completion of this course, students should be able to:			
SLOs	**Related ILO(s)* (numbers only)**	**Evaluation Criteria (MCQ, OSCE, Homework…)**	
		Type of Criteria (MCQ, OSCE, Homework…)	**Weight (%)**
1. Provide an in-depth exploration of a research topic of special interest.	**1, 2**	**MCQ**	**20**
2. Explain and apply relevant theories in the chosen research area.	**1, 2, 10**	**MCQ**	**16**
3. Acquire knowledge on the chosen topic of research and apply the knowledge, experience, and skills learned in medicine to the chosen topic.	**1, 2, 3**	**MCQ**	**28**
4. Show the ability to analyze various aspects of a topic, review, and synthesize knowledge.	**10**	**MCQ**	**8**
5. Apply various research techniques, find suitable sources of information, and acknowledge them in the research project.	**10**	**MCQ**	**12**
6. Acquire and apply academic medical reading skills and general academic reading skills.	**7, 10**	**MCQ**	**12**
7. Develop effective communication skills to present research on medicine.	**11**	**MCQ**	**4**
			100

***** From the list of Program Student Outcomes (see the end of this sheet)

Recommended textbooks:

1. Title: How to write a thesis/ Rowena Murray. Author: Murray, Rowena

ISBN: 0335207189 (pbk)

Learning objectives			
#	**Title**	**Type of Activity**	**Objectives**
1	Introduction and orientation to the course	Lecture	1. Acknowledge the importance of research in advancing medical knowledge and practice 2. Acknowledge the importance of evidence-based medical practice.
2	Basics of scientific research	Lecture	1. Identify the basic elements of scientific research. 2. Identify types and approaches of research in medicine.
3	Research ethics	Lecture	1. Recognize the founding principles of ethics applied in research. 2. Identify the relationship between research and human rights.
4	How to define your research problem; Academic medical writing 1	Lecture	1. Identify what types of research could be applied in medical settings and practice. 2. Get familiar with basic scientific writing.
5	How to define your research problem; Academic medical writing 2	Lecture	1. Acknowledge the characteristics of a research problem that could be worth. 2. Get familiar with published literature.
6	Research proposal elements; Background, Literature review, Theoretical framework, Methodology, Statistical analysis, Results, Conclusions	Lecture	1. Identify the basic elements of an adequate proposal. 2. Choose studies from literature to prove authenticity of the proposal. 3. Get familiar with critique of published studies.
7	Organizing a thesis on medical topics	Lecture	1. Identify the basic rules and requirements for a legitimate thesis. 2. Provide a draft for a thesis.

8	What to avoid in writing; Plagiarism and Wrong citations	Lecture	1. Recognize the rules of legitimate scientific writings. **2.** Define the plagiarism and alike mistakes in scientific writings.
9	Presentation skills	Lecture	1. Get familiar with adequate presentation skills of scientific topics. 2.
10	Thesis defense		1. Identify the successful end results of thesis writing.

Method of Instruction:

The student is expected to actively work in class and to work on a research project independently outside class. This includes regularly attending the scheduled course meetings, actively participating in the class activities, and meeting with the instructor and research committee individually. The student will also have to engage in independent readings, research, and writing. Additionally, the student will have to give and receive feedback throughout the course and to make oral presentations about the work. Instructors' role is to guide students in research progression, to encourage construct a sound analysis, and to design a structured written report.

Thesis Requirements:

- Approximately: 2500 words.
- Font size: 12.
- Double line spacing.
- Correct use of English (spelling, grammar, and clarity).
- Every source used must be documented correctly and consistently according to the appropriate referencing system, e.g. Vancouver, Harvard, MLA, APA, etc.
- Both a printed copy and an electronic copy of the thesis must be handed in to the instructor.

Assessment		
Assessment Type	**Expected Due Date**	**Weight**
First Exam		**--**
Second Exam		**--**
Midterm Exam		**--**
Evaluation		**--**
Quizzes		**--**
Research activity		**--**
OSCE		**--**
Mini-OSCE		**--**
(Thesis)		**50**
(Oral)		**50**
Total		**100**

List of Intended Learning Outcomes (ILOs):

1) Demonstrate a sufficient understanding of the structural organization and functions of the following systems of the human body: circulatory, respiratory, gastrointestinal, endocrine, hematopoietic & lymphatic, musculoskeletal, nervous, and genitourinary systems.
2) Conceptualize the cellular, molecular, genetic, and biochemical mechanisms that maintain body's homeostasis and their derangements in disease states.
3) Apply their knowledge of human anatomy and function to solve questions regarding major clinical cases and diseases.
4) Attain appropriate and systematic clinical history of different medical conditions and settings.
5) Demonstrate proficiency in performing clinical skills and procedures.
6) Perform relevant physical examination on patients professionally and ethically.
7) Identify the major signs and symptoms of disease states, recognizing risk factors and etiologies, in an interdisciplinary approach to differentially diagnose patients.
8) Order and interpret results of relevant basic diagnostic procedures, such as laboratory investigations and conventional imaging procedures.
9) Apply safe and accurate methods of pharmacotherapy of major disease states.
10) Critically appraise research studies guided by evidence-based medicine.
11) Demonstrate ability to work in diverse settings and communities.