



**Jordan University of Science and Technology**  
**Faculty of Pharmacy**  
**Pharmacy Department**

PHAR675 Clinical Training : Pharmaceutical Research (For Pharm.D Students)

Summer Semester 2019-2020

**Course Catalog**

4 Credit Hours. This research rotation is designed to train students on how to effectively conduct clinical research. The course focuses on the spectrum of clinical research and the research process by reviewing the literature and highlighting epidemiologic methods, study design, proposal and protocol preparation, principles involved in the ethical, legal, and regulatory issues in clinical human subjects research, including the role of IRBs, in addition to an overview of basic biostatistical and epidemiologic methods involved in conducting clinical research.

**Text Book**

<b>Title</b>	Drug information A guide for pharmacists
<b>Author(s)</b>	Patrick M. Malone
<b>Edition</b>	3rd Edition
<b>Short Name</b>	Ref No. 1
<b>Other Information</b>	

**Course References**

Short name	Book name	Author(s)	Edition	Other Information
Ref No. 2	Designing Clinical Research	Stephen B. Hulley	2nd Edition	
Ref No. 3	Evaluating Drug Literature: a statistical approach	Slaughter & Edwards	1st Edition	
Ref No. 4	Research Methods: a Framework for Evidence ? Based Clinical Practice	Wendy L. Hurley	1st Edition	

**Instructor**

Name	<b>Dr. BUSHRA HIJAZI</b>
Office Location	-
Office Hours	Sun : 08:00 - 10:00 Mon : 09:00 - 10:00 Tue : 08:00 - 09:00 Wed : 08:00 - 09:00 Thu : 08:00 - 09:00

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Instructor	
Name	<b>Dr. Osama Alshogran</b>
Office Location	P2-L2
Office Hours	Sun : 09:00 - 10:00 Sun : 14:00 - 15:00 Mon : 09:15 - 10:15 Tue : 13:30 - 14:30 Wed : 09:00 - 11:00
Email	oyalshogran@just.edu.jo

Class Schedule & Room
<p>Section 1: Lecture Time: Sun, Mon, Tue, Wed : - Room: HOSPITAL</p> <p>Section 2: Lecture Time: Sun, Mon, Tue, Wed : - Room: HOSPITAL</p>

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Anatomy and physiology of clinical research	From <b>Ref No. 2</b>
Week 1	Drug information recourses	From <b>Ref No. 1</b>
Week 1	Searching the literature	From <b>Ref No. 3</b>
Week 1	Referencing and writing bibliography	From <b>Ref No. 4</b>
Week 1	Classification of study design	From <b>Ref No. 4</b>
Week 1	Sample size calculation and types of errors in research	From <b>Ref No. 3</b>
Week 2	Evidence based clinical practice ? distinguishing best practice	From <b>Ref No. 4</b>
Week 2	Choosing the study subjects and selection bias	From <b>Ref No. 2</b>
Week 2	Clinical prediction rules and clinical practice guidelines	From <b>Ref No. 4</b>
Week 2	Treatment outcomes across the disablement spectrum	From <b>Ref No. 4</b>
Week 2	Treatment outcomes: Research methods and data analysis	From <b>Ref No. 4</b>
Week 3	Presenting of findings	From <b>Ref No. 4</b>
Week 3	Evaluation of primary literature	From <b>Ref No. 3</b>
Week 3	The ethics in clinical research	From <b>Ref No. 4</b>
Week 3	Systematic reviews and Meta-analysis	From <b>Ref No. 4</b>
Weeks 3, 4	Biostatistics for the clinician	From <b>Ref No. 3</b>
Weeks 1, 2, 3, 4	Hypothesis generation and Writing the funding proposal	From <b>Ref No. 2</b>

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Search the literature to come up with a new idea for future research [15SO1.1, 20SO4.3]	35%	
Search the literature about a specific issue and summarize the results in a narrative review [10SO1.1, 5SO4.1, 5SO4.2]	20%	
Criticize a published article [10SO3.1, 5SO4.1]	15%	
Use reference managers appropriately. [1SO1.1]	10%	
Differentiate between different clinical studies' designs [10SO1.1]	10%	
Presentation skills [5SO1.1, 5SO4.1]	10%	

Relationship to Program Student Outcomes (Out of 100%)														
SO1.1	SO2.1	SO3.2	SO3.3	SO2.2	SO2.3	SO2.4	SO3.1	SO3.4	SO3.5	SO3.6	SO4.1	SO4.2	SO4.3	SO4.4
50							10				15	5	20	

Evaluation	
Assessment Tool	Weight
Proposal writing and defense	35%
Writing review	20%
Activities	45%

Policy	
Exams	? The format for the exams is generally (but NOT always) as follows: Multiple-choice (include clinical case scenarios) and short essay questions. ? Grades will not be given out via e-mail
Makeup Exams	? Makeup exam should not be given unless there is a valid excuse. ? Arrangements to take an exam at a time different than the one scheduled MUST be made prior to the scheduled exam time.
Drop Date	? Last day to drop the course is before the twelve (12th) week of the current semester.
Cheating	The commitment of the acts of cheating and deceit such as copying during examinations, altering examinations for re-grade, plagiarism of homework assignments, and in any way representing the work of others as your own is dishonest and will not be tolerated. Standard JUST policy will be applied  المادة 7: إذا ضبط الطالب أثناء الامتحان أو الاختبار متلبساً بالغش فتوقع عليه العقوبات التالية مجتمعة: أ- اعتباره راسباً في ذلك الامتحان أو الاختبار ب- الغاء تسجيله في بقية المسابقات المسجل لها في ذلك الفصل ج- فصله من الجامعة لمدة فصل دراسي واحد، و هو الفصل التالي للفصل الذي ضبط فيه
Attendance	? Excellent attendance is expected. ? JUST policy requires the faculty member to assign ZERO grade (35) if a student misses 10% of the classes that are not excused. ? If you miss class, it is your responsibility to find out about any announcements or assignments you may have missed.
Workload	? Average work-load student should expect to spend is 6 hours/week
Graded Exams	? Instructor should return exam papers graded to students not after the week after the exam date.

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