



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

PHAR720 Research Methodology - JNQF Level: 7

First Semester 2024-2025

**Course Catalog**

3 Credit Hours. This course provides new graduate students with a foundation to begin research in the Department of Medicinal Chemistry and Pharmacognosy. Topics relevant to graduate studies and research will be covered, including an overview of the rules and regulations of graduate studies, course curriculum for the Master Degree in Medicinal Chemistry and Pharmacognosy, literature search, key software in the area of research, research ethics, advising, and mentoring, scientific authorship, data management, data presentation, research misconduct, scientific writing, research proposals, manuscript preparation, thesis writing, human participants and animal subjects in research, and laboratory safety. The role of artificial intelligence (AI) in enhancing scientific writing will also be explored. Moreover, the basics of biostatistics pertinent to data collection, analysis, and presentation will be covered. To introduce graduate students to the various research projects in the Department, the students should interview ten faculty members of the Department of Medicinal Chemistry and Pharmacognosy and write a summary about their research interests.

**Teaching Method:** On Campus

**Instructor**

Name	Prof. Tamam El-Elimat
Office Location	P1 L1
Office Hours	Sun : 10:00 - 11:00 Mon : 10:00 - 11:30 Mon : 13:00 - 14:30 Tue : 10:00 - 11:00 Wed : 10:00 - 11:30
Email	telimat@just.edu.jo

**Class Schedule & Room**

Section 2:  
Lecture Time: Mon, Wed : 11:30 - 13:00  
Room: قاعة الكندي/اصييلة

**Tentative List of Topics Covered**

Weeks	Topic	References
Weeks 1, 2	Introduction to Graduate Studies	
Week 3	Literature Search	
Week 3	Scientific Writing I	
Weeks 4, 5, 6	Literature Search II and III	
Week 7	Scientific Writing II	
Week 8	Scientific Writing III	
Week 9	EndNote/Citation Manager	
Week 10	ChemDraw/Drawing I and II	
Weeks 11, 12	Introduction to Biostatistics	
Week 13	Responsible Conduct of Research: Research Ethics	
Week 13	Advising and Mentoring	
Week 14	Human Participants and Animal Subjects in Research: I	
Week 14	Authorship and Publication	
Week 15	Human Participants and Animal Subjects in Research: II	
Week 15	Data Management	
Week 16	Data Presentation	
Week 16	Research Misconduct	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Understand the rules and regulations of graduate studies. [1PLO-MP1] [1L7S2]	5%	Participation, Assignments
Explore research ethics and proper conduct of research. [1PLO-MP3] [1L7S2]	5%	Participation, Assignments
Evaluate the rules that govern copyright and authorship and their impact on scientific publishing [1PLO-MP3] [1L7S2]	5%	Participation, Assignments

Identify the consequences of research misconduct. [1PLO-MP3] [1L7S2]	5%	Participation, Assignments
Master the use of scientific research engines. [1PLO-MP3] [1L7S2]	5%	Participation, Assignments
Utilize key scientific software relevant to medicinal chemistry and pharmacognosy research. [1PLO-MP3] [1L7S2]	5%	Participation, Assignments
Understand the structure and components of a research proposal, thesis, and manuscript. [1PLO-MP3] [1L7S2]	5%	Participation, Assignments
Assess the research advisor selection process. [1PLO-MP3] [1L7S2]	10%	Research interview form
Understand the rules that govern the advisor-student relationship. [1PLO-MP3] [1L7S2]	5%	Participation, Assignments
Learn the basic principles of biostatistics [1PLO-PT3.7] [1L7S2]	5%	Participation, Assignments
Apply AI tools to enhance scientific writing. [1PLO-MP3] [1L7S2]	5%	Participation, Assignments
Compose a research proposal by applying skills in literature search, ethics, and scientific writing. [1PLO-MP3] [1L7S2]	40%	Research proposal

PLO1.1	PLO2.1	PLO3.2	PLO3.3	PLO2.2	PLO2.3	PLO2.4	PLO3.1	PLO3.4	PLO3.5	PLO3.6	PLO4.1	PLO4.2	PLO4.3	PLO4.4	PLO5.1	PLO-PT1.1	PLO-PT2.1	PLO-PT2.2	PLO-PT3.1

Relationship to NQF Outcomes (Out of 100%)																			
L7S2																			
100																			

Evaluation	
Assessment Tool	Weight
Participation	20%
Assignments	30%
Research interview form	10%
Research proposal	40%

Policy	
E-Learning	E-learning, the online course management program, will be used to post information and assignments for the class. Although many handouts will be distributed in class, other information (such as research ethics guides) will be posted on e-learning only. You should make a habit of checking it frequently.
Assignments	The research interview form will constitute 10% of the overall grade of this course. Deadlines will be specified for handling every form. NO form will be accepted after the specified deadline. Short paragraphs or other exercises and homework to hand in will be assigned most weeks. Deadlines will be specified for every assignment. NO assignment will be accepted after the specified deadline. Writing a research proposal is a major part of this course. Make sure to select a topic early in the semester. You are supposed to apply all that is going to learn during this course in writing your research proposal.
Participation	The course will involve extensive classroom discussions. Because these activities depend mostly on your participation you are required to attend every class meeting and participate effectively in the class. Readings will be assigned for most of the class meetings. Be sure to complete these before class, so that you can fully participate in the discussion.
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 راسياً في ذلك الامتحان أو الاختبار. ب- إلغاء تسجيله في بقية المساقات 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 a 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.

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