



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

Pharmaceutical Literature Evaluation

(Evidence Based Medicine)

1203518

1	Course title	Pharmaceutical Literature Evaluation (Evidence Based Medicine)
2	Course number	1203518
3	Credit hours (theory, practical)	2 (theory)
	Contact hours (theory, practical)	2 (theory)
4	Prerequisites/corequisites	Prerequisite: 1203364 (Pharmacology II)
5	Program title	PharmD
6	Program code	
7	Awarding institution	The University of Jordan
8	Faculty	Pharmacy
9	Department	Biopharmaceutics & Clinical Pharmacy
10	Level of course	Undergraduate
11	Year of study and semester (s)	Spring semester of the 5th year
12	Final Qualification	PharmD
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Date of production/revision	10th Oct. 2021

16. Course Coordinator:**Dr Eman A Hammad, PhD.**<http://eacademic.ju.edu.jo/ehammad/default.aspx>**Office 118****Phone 5 355 000, Ext. 23569.****E-mail: e.hammad@ju.edu.jo****Office hours**

Day/Time	Sunday	Monday	Tuesday	Wednesday	Thursday
10:30-11:30	✓		✓		

17. Other instructors:

<i>None</i>

18. Course Description:

<p><i>As stated in the approved study plan.</i></p> <p>This course will enable students to identify, obtain and utilize published medical literature to needed in patient care, research projects and lifelong learning. Emphasis on data searching and retrieval using computer database and written material</p> <p>With the increasing emphasis on evidence-based practices, there is a greater need for pharmacists to understand clinical research, evaluate scientific findings, and translate evidence to support patient-care decisions. This requires a comprehensive understanding of the principles and practice of drug literature evaluation with a strong grounding in research design and statistical methods.</p>

19. Course aims and outcomes:**A- Aims:**

This course is designed for professional pharmacy (PharmD) students and it aims to provide a balanced approach to the principles of clinical research and statistics for evaluating pharmacy literature to implement evidence-based pharmacotherapy.

B- Course Intended Learning Outcomes (ILOs)

Upon successful completion of this course students will be able to:

- **Develop, integrate, and apply knowledge from the foundational sciences (Pharmaceutical sciences and Clinical sciences) (Learner)**
 1. Describe of the principles of scientific research and its ethical considerations with an emphasis on common clinical research designs and methodologies and analytical frameworks used in the medical literature namely: meta-analyses, systematic reviews, randomized controlled trials.
 2. Explain major statistical concepts and principles including the types of measurements and outcomes and the major statistical tests appropriate for each type
 3. Distinguish between Type I and Type II errors, null and alternative hypotheses, state the basic types and steps of hypothesis testing, and interpret confidence levels.
 4. Explain the principles of evidence-based medicine, drug literature sources and evaluation techniques, and application of evidence to patient care.
 5. Apply formal criteria to evaluate randomized controlled trials, systematic reviews and meta analyses and assess validity issues in these studies
- **Proactively investigates new knowledge, approaches or behavior and takes steps to evaluate and improve performance (Self-learner)**
 6. Identify appropriate sources of information and evaluate primary literature to synthesize answers to patient-specific questions and to Verify that patient therapy is based on best scientific evidence available
 7. Get familiar with different online resources of EBM and develop a system to keep up-to-date with drug information
- **Exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society (Professional)**
 8. Demonstrate integrity by not cheating and not committing plagiarism
 9. Demonstrate respect to professors and classmates by observing active listening inside the classroom

20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods
Course Overview	1	Eman Hammad		
Principles of Clinical Research and an overview about EBM	2	Eman Hammad	1	Workshops, assignments and quizzes
Research Design and Methods	3-4	Eman Hammad	1	Workshops, assignments and quizzes
Ethical Considerations in Clinical Research	5	Eman Hammad	1	Workshops, assignments and quizzes

Workshop	6			
Introduction to Drug Literature	7	Eman Hammad	4,6	Workshops, assignments and quizzes
Quiz		Eman Hammad		
Evaluating Clinical Literature: An Overview	8	Eman Hammad	5	Workshops, assignments and quizzes
Randomized Controlled Trials	9-10	Eman Hammad	1,5	Workshops, assignments and quizzes
Statistical Principles and Data Analysis	11	Eman Hammad	2	Workshops, assignments and quizzes
Evaluation of Systematic Review and Meta-Analysis	12	Eman Hammad	1,5	Workshops, assignments and quizzes
How to write a research proposal	13-14	Eman Hammad	6	Workshops, assignments and quizzes
Final exams	15-16			

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following **teaching and learning methods**:

ILO/s	Learning Method
ILO-1	Lecturing
ILO-2	Lecturing
ILO-3	Lecturing
ILO-4	Lecturing, Case discussions
ILO-5	Homeworks, Assignments, Lecturing
ILO-6	Homeworks, Assignments, Reflection
ILO-7	Home works, Self-assessment, Reflection
ILO-8	Role model, Reflection
ILO-9	Role model, Reflection

Learning skills:

1. Critical thinking
2. Digital literacy
3. Problem-solving skills
4. Self-directed learning
5. Scientific reasoning
6. Problem-solving skills

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

ILO/s	Evaluation Method
ILO-1	Workshops, Exams, Quizzes, class discussion
ILO-2	Workshops, Exams, Quizzes, class discussion
ILO-3	Workshops, Exams, Quizzes, class discussion
ILO-4	Workshops, Exams, Quizzes, class discussion
ILO-5	Workshops, Exams, Quizzes, class discussion
ILO-6	Workshops, Exams, Quizzes, class discussion
ILO-7	Workshops, Exams, Quizzes, class discussion
ILO-8	Workshops, Exams, Quizzes, class discussion
ILO-9	Workshops, Exams, Quizzes, class discussion

23. Course Policies:

A- Attendance policies:

Attendance: Mandatory.

First warning – with 4 absences

Last warning – with 5 absences

Failing in the subject – with 6 absences

B- Absences from exams and handing in assignments on time:

Will result in zero achievement unless health report or other significant excuse is documented.

C- Health and safety procedures:

NA

D- Honesty policy regarding cheating, plagiarism, misbehavior:

The participation, the commitment of cheating will lead to applying all following penalties together

- 1) Failing the subject he/she cheated at
- 2) Failing the other subjects taken in the same course

3) Not allowed to register for the next semester. The summer semester is not considered as a semester

E- Grading policy:

Exams and Quizzes.

Mid Exam:	30 points
Quizzes + Assignments:	20 points
Final Exam:	50 points
Total:	100 points

Assignment details and quiz date will be announced in the end of week 2 on eLearning.

F- Available university services that support achievement in the course:

Classrooms, Computer rooms with internet access

24. Required equipment:

Data show and internet connection

25. References:

A- Required book (s), assigned reading and audio-visuals:

ISBN	Title	Authors	Ed	Year
978-1284038798	Principles of Research Design And Drug Literature Evaluation	Rajender R. Aparasu and John P. Bentley	2n	2020

B- Recommended books, materials, and media:

ISBN	Title	Authors	Ed	Year
978-0071790710	Users' Guides to the Medical Literature: A Manual for Evidence-Based Clinical Practice	Gordon Guyatt; Drummond Rennie; Maureen O. Meade; Deborah J. Cook	3rd	2014
978-0071794152	Users' Guides to the Medical Literature: Essentials of Evidence-Based Clinical Practice	Gordon Guyatt; Drummond Rennie; Maureen O. Meade; Deborah J. Cook	3rd	2015
978-1118800966	How to Read a Paper: The Basics of Evidence-Based Medicine	Trisha Greenhalgh	5th	2014
978-1452203874	How to Conduct Surveys: A Step-by-Step Guide	Arlene Fink	5th	2013
978-1451144475	Clinical Epidemiology: The Essentials	Robert Fletcher and Suzanne W. Fletcher	5th	2012
978-0071781503	Primer of Biostatistics	Stanton A. Glantz	7th	2012

978-0071624947	The Patient History: Evidence-Based Approach to Differential Diagnosis	Mark Henderson; Lawrence Tierney; Gerald Smetana	2nd	2012
978-1932658781	Clinical Pharmacist's Guide to Biostatistics and Literature Evaluation	Robert Ed Dicenso		2011
978-0415486699	Practice-based Evidence for Healthcare: Clinical Mindlines	John Gabbay, Andrée le May	1st	2010
978-0071590303	Rational Clinical Examination: Evidence-based Clinical Diagnosis	David L. Simel and Drummond Rennie		2009
978-0521712415	Essential Evidence-based Medicine	Dan Mayer	2nd	2009
978-1585281770	The Pharmacist's Guide to Evidence-Based Medicine for Clinical Decision Making	Patrick J. Bryant, Heather A. Pace		2008
978-0787975609	Designing and Conducting Health Surveys: A Comprehensive Guide	Lu Ann Aday and Llewellyn J. Cornelius	3rd	2006
978-0071437899	Interpreting the Medical Literature	Stephen H. Gehlbach	5th	2006
978-0727918413	Evidence-based Medicine Toolkit	Carl Heneghan and Douglas Badenoch	2nd	2006
978-3540222392	Evidence-based Practice in Medicine and Health Care: A Discussion of the Ethical Issues	Ruud ter Meulen, Nikola Biller-Andorno, Christian Lenk and Reidar K. Lie		2005
978-0071410175	Basic & Clinical Biostatistics	Beth Dawson, Robert G. Trapp	4th	2004
978-1859962770	Key topics in evidence-based medicine	M. Levi, D.P.B. McGovern, W.S.M. Summerskill, R.M. Valori		2001
978-1859962824	Evidence-Based Medicine in General Practice (Key Topics)	D.P.B. McGovern, R.M. Valori, M. Levi		2001

26. Additional information:

Course Material and Announcements

Students need to use the [e-learning page at the JU website](#) in order to get all lecture handouts and other reading and reference materials.

In addition, course related announcements and exam results will be posted on the [e-learning page](#) and it is the responsibility of each student to check the site regularly.

Name of Course Coordinator **Dr. Eman Hammad** Signature: ----- Date: **OCT,**
10th2021

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: -----Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

Copy to:
Head of Department
Assistant Dean for Quality Assurance
Course File