



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Evidence Based Medicine Pharmaceutical Literature Evaluation
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 5 th 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	14 February 2016

16. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Prof. Mayyada Wazaify, PhD.

<http://eacademic.ju.edu.jo/m.wazaify/default.aspx>

Office 108

Phone 5 355 000, Ext. 23554.

E-mail: m.wazaify@ju.edu.jo

Office hours to be announced

17. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Dr. Maysa Al-Suyagh, PhD.

Office 106.

Phone 5 355 000, Ext. 23337.

E-mail: m.suyagh@ju.edu.jo

Office hours to be announced

18. Course Description:

As stated in the approved study plan.

This course will enable students to identify, obtain and utilize published medical literature to be used in patient care, research projects and lifelong learning. Emphasis on data searching and retrieval using computer database and written material

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.

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.

The course is broadly divided into three parts to meet the following objectives:

- Achieve an understanding of the principles of scientific research with an emphasis on clinical research designs ranging from randomized controlled trials to case reports.
- Provide the foundation necessary to understand statistics and to critically evaluate results from statistical analyses reported in the medical literature with a focus on common statistical methods.
- Provide the knowledge of the principles of evidence-based medicine, drug literature sources and evaluation techniques, and application of evidence to patient care.

B- Course Intended Learning Outcomes (ILOs):

Successful completion of the course should lead to the following outcomes:

A. Knowledge and Understanding: Student is expected to understand:

- A1. basic principles in evidence based medicine
- A2. basic principles in statistics
- A3. different types of clinical trials

B. Intellectual Analytical and Cognitive Skills: Student is expected to be able to perform the following:

- B1. calculation of treatment effect and its confidence interval
- B2. assessment of heterogeneity
- B3. assessment of publication bias
- B4. assessment of sensitivity of meta-analysis
- B5. construction of a forest plot

C. Subject-Specific Skills: Student is expected to

- C1. formulate a clinical question on PICO(TT) format
- C2. look for the best evidence
- C3. critically appraise the evidence

D. Transferable Key Skills: Students is expected to

- D1. access and utilization of online-resources on EBM
- D2. access and utilization of primary sources of evidence

ILOs: Learning and Evaluation Methods

ILO/s	Learning Methods	Evaluation Methods
All ILOs	Lectures and Discussions, Homework and Assignments	Exam, Quiz and assignment

Competencies achieved at the end of the course:

- Provide patient centred care.
 - 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
- Develop interpersonal and communication skills
 - Communicate information to physicians, other healthcare providers, patients and caregivers in a timely and effective manner.

20. Topic Outline and Schedule:

1.					
Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
Course Introduction Principles of Clinical Research and an overview about EBM	1	Dr. Maysa Suyagh	2. A1-3, B1, C1	3. Exams, Quizzes	4. Specified in each lecture. General references provided below
Research Design and Methods	2	Dr. Maysa Suyagh	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Randomized Controlled Trials	3	Dr. Maysa Suyagh	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Principles of Evidence-Based Medicine	4	Dr. Maysa Suyagh	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Introduction to Drug Literature	5	Dr. Maysa Suyagh	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Evaluating Clinical Literature: An Overview	6	Dr. Maysa Suyagh	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Evaluating Randomized Controlled Trials	7	Dr. Maysa Suyagh	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Statistical Principles and Data Analysis Measurement and Descriptive Analysis	8	Prof. M. Wazaify	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Interpretation and Basic Statistical Concepts Bivariate Analysis and Comparing Groups	9	Prof. M. Wazaify	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below

Logistic Regression and Survival Analysis	10	Prof. M. Wazaify	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Sample Size and Power Analysis	11	Prof. M. Wazaify	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Systematic Review and Meta-Analysis	12	Prof. M. Wazaify	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Evaluation of Systematic Review and Meta-Analysis	13	Prof. M. Wazaify	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Applying Drug Literature to Patient Care	14	Prof. M. Wazaify	A1-3, B1, C1	Exams, Quizzes	Specified in each lecture. General references provided below
Final Exam	15				

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following <u>teaching and learning methods</u> :		
ILO/s	Learning Methods	Evaluation Methods
All ILOs	Lectures and Discussions, Homework and Assignments	Exam, Quiz and assignment
Learning skills: <ol style="list-style-type: none"> Critical thinking Digital literacy Problem-solving skills Self-directed learning Scientific reasoning Problem-solving skills 		

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following <u>assessment methods and requirements</u> : <ol style="list-style-type: none"> Exams Quizzes Students reports on assignments
--

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:	40 points
Quizzes % Assignments	10 points
Final Exam:	50 points
Total	100 points

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

Classrooms, internet classes

24. Required equipment:

Datashow and internet connection

25. References:

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

	ISBN	Title	Authors	Ed	Year
1	978-1284038798	Principles of Research Design And Drug Literature Evaluation	Rajender R. Aparasu and John P. Bentley	1st	2014

2	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
3	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
4	978-1118800966	How to Read a Paper: The Basics of Evidence-Based Medicine	Trisha Greenhalgh	5th	2014
5	978-1452203874	How to Conduct Surveys: A Step-by-Step Guide	Arlene Fink	5th	2013
6	978-1451144475	Clinical Epidemiology: The Essentials	Robert Fletcher and Suzanne W. Fletcher	5th	2012
7	978-0071781503	Primer of Biostatistics	Stanton A. Glantz	7th	2012
8	978-0071624947	The Patient History: Evidence-Based Approach to Differential Diagnosis	Mark Henderson; Lawrence Tierney; Gerald Smetana	2nd	2012
9	978-1932658781	Clinical Pharmacist's Guide to Biostatistics and Literature Evaluation	Robert Ed Diczenco		2011
10	978-0415486699	Practice-based Evidence for Healthcare: Clinical Mindlines	John Gabbay, Andrée le May	1st	2010
11	978-0071590303	Rational Clinical Examination: Evidence-based Clinical Diagnosis	David L. Simel and Drummond Rennie		2009
12	978-0521712415	Essential Evidence-based Medicine	Dan Mayer	2nd	2009
13	978-1585281770	The Pharmacist's Guide to Evidence-Based Medicine for Clinical Decision Making	Patrick J. Bryant, Heather A. Pace		2008
14	978-0787975609	Designing and Conducting Health Surveys: A Comprehensive Guide	Lu Ann Aday and Llewellyn J. Cornelius	3rd	2006
15	978-0071437899	Interpreting the Medical Literature	Stephen H. Gehlbach	5th	2006
16	978-0727918413	Evidence-based Medicine Toolkit	Carl Heneghan and Douglas Badenoch	2nd	2006
17	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

18	978-0071416375	Medical Epidemiology	Raymond S. Greenberg, Stephen R. Daniels, W. Dana Flanders, John William Eley, John R. Boring III	4th	2004
19	978-0071410175	Basic & Clinical Biostatistics	Beth Dawson, Robert G. Trapp	4th	2004
20	978-1859962770	Key topics in evidence-based medicine	M. Levi, D.P.B. McGovern, W.S.M. Summerskill, R.M. Valori		2001
21	978-1859962824	Evidence-Based Medicine in General Practice (Key Topics)	D.P.B. McGovern, R.M. Valori, M. Levi		2001

B- Recommended books, materials, and media:

(see above table)

26. Additional information:

Name of Course Coordinator: Nailya Bulatova -Signature: ----- Date: Jan, 31, 2016

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

Head of Department: Nailya Bulatova Signature: -----

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

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

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