

Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-4.0E
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Study Plan No.	2021/2022	University Specialization	Bachelor of Pharmacy
Course No.	0201523	Course Name	Pharmacoeconomics
Credit Hours	2	Prerequisite *Co-requisite	Therapeutics (1)
Course Type	<input type="checkbox"/> Mandatory University Requirement <input type="checkbox"/> University Elective Requirement	<input type="checkbox"/> Faculty Mandatory Requirement <input type="checkbox"/> Support course family requirements	<input checked="" type="checkbox"/> Mandatory Requirement <input type="checkbox"/> Elective Requirement
Teaching Style	<input type="checkbox"/> Full Online Learning	<input checked="" type="checkbox"/> Blended Learning	<input type="checkbox"/> Traditional Learning
Teaching Model	<input type="checkbox"/> 1 Synchronous: 1 Asynchronous	<input checked="" type="checkbox"/> 1 Face to Face: 1 Asynchronous	<input type="checkbox"/> 2 Traditional

#### Faculty Member and Study Divisions Information (to be filled in each semester by the subject instructor)

Academy Member and Study Division Information (to be filled in each semester by the subject instructor)					
Name	Academic rank	Office No.	Phone No.	E-mail	
Office Hours (Days/Time)	Sunday, Tuesday, Thursday ()		Monday, Wednesday ()		
Division number	Time	Place	Number of Students	Teaching Style	Approved Model
				Blended Learning	1 Face to Face: 1 Asynchronous

#### Brief Description

The purpose of this course is to provide a theoretical foundation and basic methods of application in health technology assessment in general and pharmacoeconomic methods for health care programs.

#### Learning Resources

Course Book Information (Title, author, date of issue, publisher ... etc)	Drummond MF, Sculpher MJ, Claxton K, Stoddart GL, Torrance GW. Methods for the Economic Evaluation of Health Care Programmes. Fourth Edition. Cambridge: Oxford University Press. 2015.
Supportive Learning Resources (Books, databases, periodicals, software, applications, others)	1. Alkhatib et al. Six delta platform, Journal of medical economics 2. Andrew briggs. Decision modelling for health economic evaluation
Supporting Websites	
The Physical Environment for Teaching	<input checked="" type="checkbox"/> Classroom <input type="checkbox"/> Labs <input checked="" type="checkbox"/> Virtual Educational Platform <input type="checkbox"/> Others
Necessary Equipment and Software	- Moodle.
Supporting People with Special Needs	
For Technical Support	E-Learning & Open Educational Resources Center. Email: <a href="mailto:ellearning@zu.edu.jo">ellearning@zu.edu.jo</a> ; Phone: +962 6 429 1511 ext. 425/362.

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### Course learning outcomes (K= Knowledge, S= Skills, C= Competencies)

No.	Course Learning Outcomes	The Associated Program Learning Output Code
<b>Knowledge</b>		
<b>The student should be able to:</b>		
<b>K1</b>	Describe the economic constructs of health and illness.	<b>MK3</b>
<b>K2</b>	Identify various types of health care costs and sources	<b>MK3</b>
<b>K3</b>	Recognize the different types of economic analyses	<b>MK3</b>
<b>Skills</b>		
<b>The student should be able to:</b>		
<b>S1</b>	Calculate incremental cost-effectiveness ratio, cost-utility ratio	<b>MS3</b>
<b>S2</b>	Perform discounting calculations	<b>MS3</b>
<b>S3</b>	Apply critical appraisal to economic evaluations	<b>MS3</b>
<b>Competencies</b>		
<b>The student should be able to:</b>		
<b>C1</b>	Apprise decision making about cost-effective regimens in drug formulary	<b>MC3</b>
<b>C2</b>	Take responsibility of personal and professional development by following up the weekly activities and handing the assignments on time.	<b>MC3</b>

### Mechanisms for Direct Evaluation of Learning Outcomes

Type of Assessment / Learning Style	Fully Electronic Learning	Blended Learning	Traditional Learning (Theory Learning)	Traditional Learning (Practical Learning)
<b>Midterm Exam</b>	30%	30%	30%	0%
<b>Participation / Practical Applications</b>	0%	0%	20%	50%
<b>Asynchronous Interactive Activities</b>	20%	20%	0%	0%
<b>Final Exam</b>	50%	50%	50%	50%

**Note 1:** Asynchronous interactive activities are activities, tasks, projects, assignments, research, studies, projects, and work within student groups ... etc, which the student carries out on his own, through the virtual platform without a direct encounter with the subject teacher.

**Note 2:** According to the Regulations of granting Master's degree at Al-Zaytoonah University of Jordan, 40% of final evaluation goes for the final exam, and 60% for the semester work (examinations, reports, research or any scientific activity assigned to the student).

### Schedule of Simultaneous / Face-to-Face Encounters and their Topics

Week	Subject	Learning Style*	Reference **
<b>1</b>	L0- Introduction to the course	<b>Lecture</b>	
<b>2</b>	L1- Introduction to Pharmacoeconomics L2- Type of costs, clinical evidence	<b>Lecture</b>	<b>Course Book</b>

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3	L3- Methods for Pharmacoeconomic Evaluation	Online	Course Book
4	L4- Cost-effectiveness analysis L5-Cost-minimization and cost-benefit analysis	Lecture	Course Book
5	L6-Cost-utility analysis L7-Estimating utility values	Lecture	Course Book
6	L8-Budget impact analysis L9-Decision Analysis (part 1)	Online	Course Book
7	L10-Decision Analysis (part 2) L11-Sensitivity analysis (part 1)	Lecture	Course Book
8	L12-Sensitivity analysis (part 2) L13-Cost-effectiveness acceptability curve	Lecture	Course Book
9	L14-Clinical trials vs. pragmatic clinical trials <b>Midterm Exam</b>	Online	Course Book
10	L15-Discounting and inflation	Lecture	Course Book
11	L16-Critical appraisal of pharmacoeconomic studies	Lecture	Course Book
12	L17-Critical appraisal of pharmacoeconomic studies	Online	Course Book
13	L18-Multicriteria decision analysis L19- Health from pharma market access perspective	Lecture	Course Book
14	L20- Meta-analysis for evidence-based decision (1) L21-Meta-analysis for evidence-based decision (2)	Lecture	Course Book
15	L22-Indirect treatment comparison (1) L23-Indirect treatment comparison and network meta-analysis (2)	Online	Course Book
16	<b>Final Exam</b>		

\* Learning styles: Lecture, flipped learning, learning through projects, learning through problem solving, participatory learning ... etc.

\*\* Reference: Pages in a book, database, recorded lecture, content on the e-learning platform, video, website ... etc.

**Schedule of Asynchronous Interactive Activities** (in the case of e-learning and blended learning)

Week	Task / Activity	Reference	Expected Results
1	discussion forum: Introduction using discussion forum	N/A	Ice breaking
2	Discussion forum: Look for HTA agencies worldwide	Drummond book	MC2, MC3
3	Discussion forum: Cost vs charges	Drummond book	MC2, MC3
4	Pharmacoeconomics & Decision Making	<a href="https://www.youtube.com/watch?v=QwgCsaAzyBA">https://www.youtube.com/watch?v=QwgCsaAzyBA</a>	MC2, MC3
5	U.S. Drug Prices: Why Are They So High?	Harvard Review: <a href="https://www.youtube.com/watch?v=ExrF410UnbM">https://www.youtube.com/watch?v=ExrF410UnbM</a>	MC2, MC3
6	Quiz	Quiz	MS1, MS2, MS3
7	Changing drug prices game	<a href="https://www.youtube.com/watch?v=ulADmDZ9hu8&amp;t=318s">https://www.youtube.com/watch?v=ulADmDZ9hu8&amp;t=318s</a>	MC2, MC3
8			
9	How drug prices works?	<a href="https://www.youtube.com/watch?v=aeG2lWxYO_Y">https://www.youtube.com/watch?v=aeG2lWxYO_Y</a>	MC2, MC3
10	Discussion forum		
11	Big Pharma - How much power do	<a href="https://www.youtube.com/watch?v=-z_W3yRA9I8">https://www.youtube.com/watch?v=-z_W3yRA9I8</a>	MC2, MC3

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	drug companies have?   DW Documentary		
12	Discussion forum	Reflection	
13	Value-based pricing	Dr. Nimer Alkhatib Training session for the HOPE Center USA	MC2, MC3
14	Six delta platform for outcome-based contracting	Alkhatib. Six Delta platform for outcome-based contracting of pharmaceuticals <a href="https://www.tandfonline.com/doi/full/10.1080/13696998.2020.1824161">https://www.tandfonline.com/doi/full/10.1080/13696998.2020.1824161</a>	MC2, MC3
15	Discussion forum	Reflection	
16			