The Hashemite University **الجامعـــــــة الهاشميـــــــــة**

Faculty of Pharmaceutical Sciences **كلية العلوم الصيدلانية**

Syllabus*: Pharmacoeconomics

(131702545)

Second Semester 2021 /2022

COURSE INFORMATION	
Course Name: Pharmacoeconomics **Learning Method: Online Method** **Semester:** 2nd **Department:** Clinical Pharmacy and Pharmacy Practice **Faculty:** Pharmaceutical Sciences	**Course Code:** 131702473 **Section:** **Core Curriculum**:
Day(s) and Time(s): Sunday – Tuesday: **Classroom: As per semester** **Date prepared: January 2020** **Date updated: February 2023**	**Credit Hours:** 1 **Prerequisites**: Introduction Pharmaceutical Management and Marketing 131702473

COURSE DESCRIPTION

This course is an online course, where all lectures, exercise and homework's are available in audio – video mode to students .

With the recent development in health care systems and its subsequent models, there is an increase demand to manage the cost and its related aspects in health care management and medication use. Recently, Pharmacoeconomics has been considered as main branch to evaluate medication production and proper use. This course will introduce the theories and applications related to Pharmacoeconomics.

هذه المادة عبارة عن مساق ألكتروني عبر الإنترنت ، حيث تتوفر جميع المحاضرات والتمارين والواجبات المنزلية بشكل فيديو للطلاب.

مع التطور الأخير في أنظمة الرعاية الصحية ونماذجها المتزايدة ، هناك اهتمام متزايد لإدارة التكلفة والجوانب المتعلقة بها في إدارة الرعاية الصحية واستخدام الأدوية. في الآونة الأخيرة ، تم اعتبار اقتصاديات الدواء كفرع رئيسي لتقييم إنتاج الدواء والاستخدام السليم. يقدم هذا المساق النظريات والتطبيقات المتعلقة باقتصاديات الدواء.

DELIVERY METHODS

The course will be delivered through a combination of active learning strategies. These will include:

- Lecture notes
- Relevant films and documentaries
- Video lectures
- E-learning resources: e-reading assignments and practice quizzes through Model and Microsoft Team
- Reference Books

FACULTY INFORMATION

Name	**Mohanad Odeh**
Academic Title:	**Assistant Professor**
Office Location:	**Pharmacy School**
Telephone Number:	**00 962 796 757543**
Email Address:	
Office Hours:	Sunday 13:00.-14:00 Tuesday 13:00.-14:00 Monday 12:00 – 13:00 Wednesday 12:00 – 13:00 Please send an e-mail Mohanad_odeh@hu.edu.jo..

REFERENCES AND LEARNING RESOURCES

Reference1 Textbook: Pharmacotherapy: A Pathophysiologic Approach, 8e by Joseph T. DiPiro et.al

Reference2: Essentials of Pharmacoeconomics, by Karen L. Rascati, PhD. 2nd edition.

Reference 3: Pharmacoeconomics From Theory to Practice, By Renée J. G. Arnold, 1st Edition.

Reference 4: Chapter 1. Pharmacoeconomics: Principles, Methods, and Applications. (https://accesspharmacy.mhmedical.com/content.aspx?bookid=462&sectionid=41100767#7965123

COURSE OBJECTIVES

The following are the objectives of the present course:

Knowledge:

1 .Introduce the proper definitions of Pharmacoeconomics .

2. Create awareness about the need of such kind of science and explain its demands.

Skills:

1. Illustrate the different aspects related to the term (cost) and aspects related to (consequences).
2. Students will apply the concepts learnt in the analysis of existing health care policy and health commission

Competencies:

4. To characterize the organization, structure, processes and conduct of Health Technology Assessment.
3. Establish the professional and practical application of Pharmacoeconomic principles in both methods and decision evaluation models.

COURSE INTENDED LEARNING OUTCOMES (CILOs)

A. Foundational Knowledge

''Learner (Learner) - Develop, integrate, and apply knowledge. ''

A.1) Students will demonstrate understanding of the rationale and importance of pharmacoeconomic (PE) analyses.

A.2) Students will be introduced to the Economic, Clinical and Humanistic outcomes.

B. Essentials for Practice and Care

''Patient-Customer centred care (Caregiver), Medication use systems management (Manager), Health and wellness (Promoter), Population-based care (Provider)''

B.1) Students will develop skills to drive the relevant cost and revenue streams needed to conduct a pharmacoeconomic analysis. Provider

B.2) Students will develop skills to deal with cost related aspects as (Cost Vs Charge

Cost and time – Discounting concepts and the Incoterms. Promoter

B.3) Students will be able to developing an appreciation of the links between economic evaluation in health services. Caregiver + Manager

C. Approach to Practice and Care

''Being trained to be able to act as Educator, Advocate, Collaborator, Includer and Communicator''.

C.1) Compare between the main four methods, which are used in Pharmacoeconomics: Cost Minimization, Cost benefit, Cost effectiveness and Cost utility. Educator

C.2) Introduce some advance models as Markov Analysis and share it with other healthcare providers. Includer and Communicator

C.3) Cooperate with other team member to design the Decision trees and other Simulation models. Advocate + Collaborator

D. Personal and Professional Development

'' Transfer skills to enhance self-awareness, Leadership skills, Innovation, Professionalism''

D.1) Students will gain proper skills in evaluating/developing pharmacoeconomic health research with allnew applications (Innovation)

D.2) Being aware of interventions that ensure optimum use of resources in care systems where resources are scarce (self-awareness)

D.3) Lead the comprehensive assessment that brings to gather both basic methods and advanced models (Leader)

D.4) Sum-up all concepts Clinical, Humanistic and economic together with analysis method to implement professional assessment of both services and medications usage. Professionalism

ACADEMIC SUPPORT

It is The Hashemite University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their Instructor to ensure that their individual needs are met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

Tel: 00962-5-3903333 Extension: 4209
Location: Students Affairs Deanship/ Department of Student Welfare Services
Email: amalomoush@hu.edu.jo
amalomoush@staff.hu.edu.jo

COURSE REGULATIONS

Participation

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance*. It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in a non-attendance being recorded.**

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

Plagiarism

Plagiarism is considered a serious academic offence and can result in your work losing marks or being failed. HU expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviours that compromise his/her own integrity as well as that of the Hashemite University.

Plagiarism includes the following examples and it applies to all student assignments or submitted work:

- **Use of the work, ideas, images or words of someone else without his/her permission or reference to them.**
- **Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.**
- **Misrepresentation of the sources that were used.**

The instructor has the right to fail the coursework or deduct marks where plagiarism is detected

Late or Missed Assignments

In all cases of assessment, students who fails to attend an exam, class project or deliver a presentation on the scheduled date without prior permission, and/or are unable to provide a medical note, will automatically receive a fail grade for this part of the assessment.

- Submitting a term paper on time is a key part of the assessment process. Students who fail to submit their work by the deadline specified will automatically receive a 10% penalty. Assignments handed in more than 24 hours late will receive a further 10% penalty. Each subsequent 24 hours will result in a further 10% penalty.
- In cases where a student misses an assessment on account of a medical reason or with prior permission; in line with University regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

Cheating

Cheating, academic disconduct, fabrication and plagiarism will not be tolerated, and the university policy will be applied. Cheating policy: The participation, the commitment of cheating will lead to applying all following penalties together:

- Failing the subject, he/she cheated at
- Failing the other subjects taken in the same course
- Not allowed to register for the next semester
- The summer semester is not considered as a semester

Student Complaints Policy

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

COURSE ASSESSMENT

Course Calendar and Assessment

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus

Assessment	Grade Weighting	Deadline Assessment	CILOS
Exam 1	20%	1st exams period	A, B
Exam 2	20%	2nd Exams	C, D
Quizzes	10%	Before 1st exam	A, B
Homework– project	10%	Before Final exam	C,D
Final Exam (3)	40%	Add date/time	A,B,C,D

Description of Exams

Each Exam followed by two types of analysis: **Difficulty** and **Discrimination** coefficients

Distribution of questions would be managed to target different levels of students: Basic, Acceptance, Good, Very good and Excellent.

Test questions will predominately come from material presented in the lectures.

Semester exams will be conducted during the regularly scheduled lecture period.

Exam will consist of a combination of multiple choice, short answer, match, true and false and/or descriptive questions.

Homework – Projects
Will be given when it is applicable. Factor as level of class interactions and number of students for each class will be considered.

Students are expected to work on chapter examples, self-tests and chapter problems. When possible group based project may be requested from students.

Quizzes: Will be given when it is applicable. Factor as level of class interactions and number of students for each class will be considered.

Unannounced quizzes will be given during or/and at the end of each chapter based upon the previous lectures. It will enforce students to be prepared to the class.

No make-up exams, homework or quizzes will be given. Only documented absences will be considered as per HU guidelines.

Grades are not negotiable and are awarded according to the following criteria*:

Letter Grade	Description	Grade Points
A+	Excellent	4.00
A		3.75
A-		3.50
B+	Very Good	3.25
B		3.00
B-		2.75
C+	Good	2.50
C		2.25
C-		2.00
D+	Pass	1.75
D	Pass	1.50
F	Fail	0.00
I	Incomplete	-

WEEKLY LECTURE SCHEDULE AND CONTENT DISTRIBUTION

"Lecture hours and weeks are approximate and may change as needed"

Topics Domain	Topic Details	Reference No.	Estimated no. of hours
A1	Module outline	Ref 3	1
B1, D1	P.Economics: ECHO model	Ref 2 Ref 3 and Ref 4	1
B1, D1	P.Economics: Methods	Ref 2,	1
B2	Cost and cost related topics Cost Vs Charge Cost and time Some other basic concepts The Incoterms	Ref 2	1
B2	Cost Minimisation Analysis	Ref 2	1
B2	Cost-Effectiveness Analysis	Ref 2	1
B	Cost-Benefit Analysis	Ref 2	1
B	Cost-Utility Analysis – quality of life assessment	Ref 2	1
C	Introduction to advance topics: Modelling Decision Analysis	Ref 2 Ref 3	1
C	Introduction to advance topics: Markov Modeling	Ref 2 Ref 3	1
D	Introduction to advance topics: Uncertainty analyses: Monte Carlo simulation & bootstrap	Ref 2 Ref 3	1