



Jordan University of Science and Technology
Faculty of Pharmacy
Pharmacy Department

PHAR747 Pharmacoeconomics Modelling Methods - JNQF Level: 9
First Semester 2024-2025

Course Catalog
1 Credit Hours. This course will introduce students to decision analytic tools and techniques especially Markov modeling. The class will involve numerous exercises from building simple decision trees to complex Monte-Carlo Markov models.
Teaching Method: On Campus

Text Book	
Title	Cost-Effectiveness Analysis in Health: A Practical Approach
Author(s)	Peter Muennig , Mark Bounthavong
Edition	3rd Edition
Short Name	Ref 1
Other Information	2016

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref 2	TreeAge Pro for Healthcare Users Manual	Williamstown, MA	1st Edition	TreeAge Software, Inc
Ref 3	Methods for the Economic Evaluation of Health Care Programmes	Drummond, Michael F. et al	4th Edition	Oxford: Oxford U Press, 2015.
Ref 4	Essentials of Pharmacoeconomics: Health Economics and Outcomes Research	Karen Rascati	3rd Edition	Wolters Kluwer; 2020

Instructor	
Name	Dr. SHOROQ ALTAWALBEH
Office Location	P2 L-0
Office Hours	
Email	smaltawalbeh@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun : 10:30 - 11:30 Room: قاعة الكندي/صيدلة

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2	Course overview and Revision	From Ref 1, From Ref 4
Weeks 3, 4, 5	Tree Building and Assigning Health States	From Ref 1, From Ref 2
Week 6	Mathematical concepts in modeling	From Ref 1
Weeks 7, 8, 9	Sensitivity Analysis using TreeAge	From Ref 1, From Ref 2
Weeks 10, 11	Representing uncertainty in CEA results	From Ref 1, From Ref 2
Weeks 12, 13	Student Presentations	

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Construct a decision tree in TreeAge Pro, considering the essential factors in the tree construction process and applying relevant mathematical concepts for decision modeling. [1PLO-PE2.2] [1L9S1, 1L9S3]	40%	Assignments, Class Project
Explain how and when to employ one-way sensitivity analyses and probabilistic sensitivity analyses, and provide methods for representing CEA uncertainty [1PLO-PE2.2] [1L9S1]	30%	Assignments, Class Project

Integrate data from multiple sources, in a team-based work, to develop the most reasonable Pharmacoeconomic model. [1PLO-PE3.2] [1L9S2, 1L9C3]	10%	Assignments, Class Project
Articulate clearly the results of research relating to decision analysis [1PLO-PE3.1] [1L9C5]	20%	Class Project

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%)				
L9S1	L9S2	L9C3	L9C5	L9S3
50	5	5	20	20

Evaluation	
Assessment Tool	Weight
Assignments	30%
Class Project	70%

Policy	
Attendance	According to JUST policy requires the faculty member to assign ZERO grades (35) if a student misses 10% of the classes that are not excused.
Participation	Students are expected to participate and ask questions
Cheating	Prohibited, and in case of cheating the student will be subject to punishment according to the standard JUST policy will be applied.

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