



Jordan University of Science and Technology
Faculty of Engineering
Industrial Engineering Department

IE751 Decision & Risk Analysis - JNQF Level: 9

Second Semester 2020-2021

Course Catalog

3 Credit Hours. This course will focus on complex decisions often made in production and business systems under certainty, risk, and uncertainty. Several interrelated tools will be used including influence diagrams, analytical hierarchy process, decision trees, and multi-attribute utility theory.

Teaching Method: On Campus

Text Book

Title	Decision Analysis for Management Judgment
Author(s)	Goodwin, P. and Wright G.
Edition	4th Edition
Short Name	Ref #1
Other Information	

Instructor

Name	Dr. Amer Momani
Office Location	CH1L2
Office Hours	Sun : 11:30 - 13:00 Mon : 11:30 - 14:30 Tue : 11:30 - 13:00 Wed : 14:00 - 14:15
Email	ammomani@just.edu.jo

Class Schedule & Room

Section 1:

Lecture Time: Mon : 14:30 - 17:30

Room: متزامن الحضور منصة الكترونية

Tentative List of Topics Covered

Weeks	Topic	References
Weeks 1, 2, 3	Introduction to Decision Analysis	From Ref #1
Weeks 4, 5	Decisions involving multiple objectives: SMART and AHP	From Ref #1
Weeks 6, 7, 8, 9, 10	Decision making under uncertainty using utility theory, influence diagrams, and simulation	From Ref #1
Weeks 11, 12	Risk and uncertainty management	From Ref #1
Weeks 13, 14	Decisions involving groups of individuals	From Ref #1
Weeks 15, 16	Resource allocation	From Ref #1

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Use systematic approaches such as SMART, AHP, and utility theory for solving decision problems involving multiple objectives. [1SLO1] [1L9K1]	60%	
Understand how to use decision trees, influence diagrams, simulation, risk management tools, and resource allocation to formulate and solve decision problems. [1SLO1] [1L9K1]	30%	
Understand how to make decisions involving groups of individuals. [1SLO4] [1L9K1]	10%	

Relationship to Program Student Outcomes (Out of 100%)

SLO1	SLO2	SLO3	SLO4	SLO5	SLO6	SLO7
90			10			

Relationship to NQF Outcomes (Out of 100%)

L9K1
100

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