Jordan University of Science and Technology

Faculty of Engineering

Chemical Engineering Department

CHE401 Engineering Economy - JNQF Level: 7
First Semester 2023-2024

Course Catalog
2 Credit Hours. Economic concepts, supply and demand relations, interest and investment costs, taxes, insurance, depreciation, inflation, cash flow, profitability measures, estimation of unit operation and production cost, feasibility studies, etc.

Text Book	
Title	Engineering Economy
Author(s)	W. G. Sullivan, E. M. Wicks and C. P. Koelling
Edition	17th Edition
Short Name	1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
2	Engineering Economy	Leland Blank, P.E. and Anthony Tarquin, P.E.	7th Edition	

Instructor	
Name	**Prof. Hasan Hasan**
Office Location	-
Office Hours	
Email	akras@just.edu.jo

Class Schedule & Room

Section 1:
Lecture Time: Sun : 13:30 - 14:30
Room: القاعة الذكية

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	Introduction & basic principles of Engineering Economy	From **1**
Weeks 2, 3, 4, 5, 6	Time Value of Money & Interest Rate.	From **1**
Weeks 7, 8, 9, 10, 11	Evaluating Alternatives: Present & Future Worth Analysis ,Annual Worth analysis , Rate of Return Analysis ,Rate of Return Analysis of Multiple Alternatives	From **1**
Weeks 12, 13	Depreciation.	From **1**
Weeks 14, 15, 16	After Tax Economic Analysis	From **1**

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Understand and apply fundamental concepts and use the terminology of engineering economy [1SO4] [1L7C3]	5%	
Derive and use the engineering economy factors to account for the time value of money [1SO1, 1SO2, 1SO4] [1L7K1]	10%	
Use multiple factors to find equivalent amounts for cash flows that have nonstandard placement [1SO1, 1SO4] [1L7K1]	15%	
Make computations for interest rates and cash flows that are on a time basis other than a year [1SO1, 1SO4] [1L7K1]	10%	
Utilize different present worth techniques, annual worth techniques to evaluate and select alternatives. [1SO1, 1SO4, 1SO6] [1L7C2]	15%	
Understand the meaning of rate of return and perform ROR evaluation of a single project [1SO1, 1SO4, 1SO6] [1L7S3]	10%	
Determine the break even for one or two alternatives and calculate the payback period with and without a return required [1SO1, 1SO2, 1SO4] [1L7K1]	10%	
Understand concept of depreciation and estimate the depreciation using SL, DBD and MACRS methods. [1SO1, 1SO2, 1SO4] [1L7K1]	10%	
Perform an after-tax economic evaluation considering the impact of pertinent tax regulations, income taxes, and depreciation. [1SO1, 1SO2, 1SO4] [1L7K1]	15%	

Relationship to Program Student Outcomes (Out of 100%)						
SO1	SO2	SO3	SO4	SO5	SO6	SO7
35.83	15		40.83		8.33	

Relationship to NQF Outcomes (Out of 100%)			
L7K1	L7S3	L7C2	L7C3
70	10	15	5

Evaluation	
Assessment Tool	**Weight**
FIRST EXAM	25%
SECOND EXAM	25%
Quizzes+ Home works	10%
FINAL EXAM	40%

Policy	
Attendance	Attendance will be checked at the beginning of each class. University regulations will be strictly followed for students exceeding the maximum number of absences.
Homework	Working homework problems is an essential part of this course and they represent a key opportunity to learn the subjects discussed. All homework problems assigned during lecture and usually due one week later unless otherwise stated. Late homework will not be accepted. Try to solve the problems independently. The assigned problems will be collected, graded, and returned to you in lecture.
Quizzes	Quizzes will be part of this course. No make-up quizzes will be conducted except in the case of a documented emergency
Student Conduct	It is the responsibility of each student to adhere to the principles of academic integrity. Academic integrity means that a student is honest with him/herself, fellow students, instructors, and the University in matters concerning his or her educational endeavors. Cheating will not be tolerated in this course. University regulations will be pursued and enforced on any cheating student.

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