



The Hashemite University
Faculty of Engineering
Department of Industrial Engineering
Course Syllabus
Fall 2020



COURSE TITLE: Engineering Economy	COURSE NUMBER: 110403302	
DESIGNATION: Compulsory	PREREQUISITE(S): 110403242	
INSTRUCTOR: Moayad Tanash	INSTRUCTOR'S E-MAIL: moayad@staff.hu.edu.jo	
OFFICE HOURS:		
LECTURE TIME AND LOCATION:	<i>Section:</i> Mon, Wed 16:00-17.30	

Course Description:

This course covers economic studies in engineering, Utility and time value of money, Cost concepts and classifications, Interest formulas, Economic equivalence, Bases for comparison of economic alternatives, Rules of decision making among alternatives.

Required Material:

Selected chapters from suggested reference texts, notes and handouts will be provided by the instructor via [Moodle platform and Microsoft Teams.](#)

Textbook

Engineering economy / William G. Sullivan, Elin M. Wicks, C. Patrick Koelling. — Sixteenth edition

Suggested Reference Texts:

1. William G. Sullivan, Elin M. Wicks & C. Patrick Koelling, Engineering Economy, 16th Edition, Pearson, 2015.
2. Gerald J. Thuesen and W.J. Fabrycky, Engineering Economy, 9th Edition, Pearson, 2001.

Course objectives (Intended/ Course Learning Outcomes):

- Understand the basic concepts of Engineering Economy studies and project/alternative feasibility
- Understand Cost concepts relevant to Engineering alternatives and proposals
- Ability to apply Break-even Analysis of short-term alternatives and production activities
- Understand the concept of Time value of money and its effect on engineering alternatives and projects
- Ability to solve problems using cash flow diagrams, and apply equivalence on various financial transactions
- Evaluation of Engineering alternatives using equivalent worth methods, and comparison among them and making proper decision.
- Evaluation of Engineering alternatives using rate of return methods

Major Topics Covered:

Topic	# Lectures	Contact hours
Introduction to Engineering Economy	4	4
Cost Concepts	4	4
Break-even Analysis	4	4
Time value of Money	7	7
Interest formulas, equivalence and cash flow analysis	3	3
Evaluation of Engineering Alternatives	3	3
Comparison between Engineering alternatives	3	3
Replacement analysis and depreciation	3	3
Total	31	31

*Contact hours include lectures and exams

After completing the course, the student will be able to:

- Understand the basic concepts of Engineering Economy studies and project/alternative feasibility (a) and (h)
- Understand Cost concepts relevant to Engineering alternatives and proposals (e) and (h)
- Apply Break-even Analysis of short-term alternatives and production activities (b)
- Understand the concept of Time value of money and its effect on engineering alternatives and projects (a) and (e)
- Solve problems using cash flow diagrams, and apply equivalence on various financial transactions (a) and (e)
- Evaluate and compare Engineering alternatives using equivalent worth methods (a), (e) and (k)
- Evaluate Engineering alternatives using rate of return methods (a), (e) and (k)

Student Outcomes (SO) Addressed by the Course:

#	Outcome Description	Contribution
General Engineering Student Outcomes		
(a)	an ability to apply knowledge of mathematics, science, and engineering	
(b)	an ability to design and conduct experiments, as well as to analyze and interpret data	
(c)	an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify, formulate, and solve engineering problems	
(f)	an understanding of professional and ethical responsibility	
(g)	an ability to communicate effectively	
(h)	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
(i)	a recognition of the need for, and an ability to engage in life-long learning	
(j)	a knowledge of contemporary issues	
(k)	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	
H=High, M= Medium, L=Low		

Grading Plan:

Semester Work (60%):

- *First Exam (17/11/2021) 25%*
- *Second exam (22/12/2021) 25%*

Final Exam (50%):

- Will be announced later on.