

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
Systems Engineering Department

ISE 307 Engineering Economic Analysis

Term 173 Lecture Breakdown

Lec #	Date	Topics	Ref.
1	U 24/6	Role of Engineering Economy, What is Engineering Economy? Why is the study of Engineering Economy Important to Engineers? What Makes Economic Decisions Different from Other Design Decision? Types of Strategic Engineering Economic Decisions, Fundamental Principles in Engineering Economics.	Chapter 1
2	M 25/6	The Cost of Money, Economic Equivalence, Interest Formulas – Single Cash Flows.	Chapter 2: 2.1-2.3
3	T 26/6	Interest Formulas – Single Cash Flows, Uneven payment series, Equal - Payment Series.	Chapter 2: 2.3-2.5
4	W 27/6	Linear Gradient Series, Geometric Gradient Series, Composite Cash Flows. Practice Problems.	Chapter 2: 2.5-2.6
5	S 30/6	Practice Problems.	
6	U 1/7	Nominal and Effective Interest Rates. (QUIZ#1)	Chapter 3: 3.1-3.2
7	M 2/7	Nominal and Effective Interest Rates, Equivalence Calculations using Effective Interest Rates, Equivalence Analysis Using Effective Interest Rates.	Chapter 3: 3.1-3.3
8	T 3/7	Equivalence Analysis Using Effective Interest Rates, Amortized Loan. PRACTICE PROBLEMS.	Chapter 3: 3.3-3.4
9	W 4/7	PRACTICE PROBLEMS.	
10	U 8/7	Review for Major Exam I	
	U 8/7	Major Exam I	
11	M 9/7	What is inflation? Consumer Price Index (CPI), Producer Price Index (PPI), Average Inflation Rate, General Inflation Rate, Actual vs Constant Dollars, Conversion from Constant to Actual Dollars, Conversion from Actual to Constant Dollars.	Chapter 4: 4.1-4.2
12	T 10/7	Equivalence Calculation Under Inflation, Constant Dollar Analysis, Actual Dollar	Chapter 4: 4.3

		Analysis, Mixed Dollar Analysis. PRACTICE PROBLEMS.	
13	W 11/7	INITIAL PROJECT SCREENING METHOD, Conventional Payback Period.	Chapter 5: 5.1-5.2
	Th 12/7	Last Day for Dropping with W	
14	U 15/7	Discounted Payback Period, Net-Present-Worth Criterion, Net Present Worth (NPW) Measure, Comparing Mutually Exclusive Alternatives: Revenue Projects, Service Projects. Comparing Mutually Exclusive Projects, Project lives longer than the analysis period, Project lives shorter than the analysis period.	Chapter 5: 5.2-5.4
15	M 16/7	Chapter 5 Practice Problems. (QUIZ#2)	
16	T 17/7	Annual-Equivalent Worth Criterion, Benefits of AE Analysis, Capital (Ownership) Costs versus Operating Costs, Applying Annual-Worth Analysis, Unit-Profit or Unit-Cost Calculation, Make-or-Buy Decision.	Chapter 6: 6.1-6.2
17	W 18/7	Make-or-Buy Decision, Comparing Mutually Exclusive Projects, Chapter 6 Practice Problems.	Chapter 6: 6.3
18	U 22/7	Rate of Return definitions, Methods for Finding ROR. Finding ROR by Trial and Error. Internal-Rate-of-Return Criterion, Incremental Analysis for Comparing Mutually Exclusive Alternatives Based on IRR.	Chapter 7: 7.1-7.4
19	M 23/7	Internal-Rate-of-Return Criterion, Incremental Analysis for Comparing Mutually Exclusive Alternatives Based on IRR. Chapter 7 Practice Problems.	Chapter 7: 7.3-7.4
20	T 24/7	Depreciation Concept, Factors to Consider in the process of an Asset Depreciation, Cost Basis, Types of Depreciation, Book Depreciation Methods: Straight-Line Method. (QUIZ#3)	Chapter 9: 9.1-9.2
21	W 25/7	Book Depreciation Methods: Straight-Line Method, Declining Balance Method, Unit Production Method, History of Tax Depreciation Methods, Modified Accelerated Cost Recovery Systems (MACRS). MACRS Depreciation TABLE.	Chapter 9: 9.2-9.3
	TH 26/7	Last Day for Dropping all Courses with W	
22	U 29/7	Review for Major Exam II	
	U 29/7	Major Exam II	
23	M 30/7	Solution of Major Exam II. Net Income within a year, Cash Flow from Operation versus Net Income, U.S. Corporate Tax Schedule. Gain	Chapter 9: 9.3-9.4

		Taxes on Asset Disposals, Capital Gains and Ordinary Gains.	
24	T 31/7	Capital Gains and Ordinary Gains. Practice Problems of Chapter 9. Origins of Project Risk, Methods of Describing Project Risk, Sensitivity Analysis.	Chapter 9: 9.3-9.4 Chapter 11: 11.1-11.2
25	W 1/8	Scenario Analysis, Practice Problems of Chapter 11. Replacement Terminology, Replacement Analysis Fundamentals, Two basic approaches to analyze replacement problems.	Chapter 11: 11.2 & Chapter 12: 12.1
26	U 5/8	Economic Service Life, Replacement Analysis when the Required Service Period is Long. Practice Problems of Chapter 12.	Chapter 12: 12.2-12.3
27	M 6/8	Practice Problems of Chapter 12. (QUIZ#4)	
28	T 7/8	Final Exam Review.	
29	W 8/8	(QUIZ#5)	
	TH 9/8	Dropping all Courses with WP/WF	
30	U 12/8	No Class.	
	W 15/8	Final Exam	