

NE364 Engineering Economy

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Lab.	
54 Credit Hours			2	2	0	3

COURSE AIM

Applying breakeven analysis concepts in analyzing profits and losses and comparing different alternatives - Complete computations and manipulations using the basic engineering economic equations - Use engineering economy to compare alternatives by the present worth methods, the annual cost method, the benefit and cost ratio method, and the rate of return method - The role of income tax and depreciation in making engineering economic decisions.

COURSE WEEKLY CONTENTS

- 1 Introduction and overview.
- 2 Cost concepts and the economic environment.
- 3 Principles of money – time relations, the concept of economic equivalence.
- 4 Cash flow diagrams: Interest formulas and uniform series.
- 5 Cash flow diagrams: Uniform gradient series and geometric sequence
- 6 Nominal and effective interest rates, continuous compounding and continuous cash flows.
- 7 Midterm Exam
- 8 Applications of engineering economy: Methods of investment assessment.
- 9 Comparing alternatives: Useful life is equal to the study period.
- 10 Comparing alternatives: Useful life is shorter than the study period.
- 11 Comparing alternatives: Useful life is longer than the study period.
- 12 12th Assessment
- 13 Solving for unknown interest rates and for unknown useful lives
- 14 Depreciation: Historical Methods.
- 15 Depreciation: Cost recovery systems.

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	←	10	MARKS		→	30
To be freely distributed among possible assessments							
8 to 12	←		20	MARKS		→	20
13 to 15	←		10	MARKS		→	10
16 or 17	40 Final						40
Total	Exams	Assign.	Quizzes	Reports	Present.	Lab.	100

REFERENCES

Textbook William G Sullivan, Elin M Wicks, & James Koelling, "Engineering Economy", latest ed.
 Other E.L. Grant, W.G. Ireson, and R.S. Leavenworth, "Principles of Engineering Economy", John Wiley and Sons, latest edition.
 Chan S. Park, "Contemporary Engineering Economics", Pearson, latest edition.