

NE364 – Engineering Economy
COURSE INFORMATION

Course Title: Engineering Economy

Code: NE364

Contact Hours (hours/week): Lecture – 2 Hrs. Tutorial – 2 Hrs. Credit – 3.

Prerequisite: 54 Credit Hours

Course Coordinator: Dr. Bassem Roushdy

GRADING

Class Performance/Attendance: 10%

Midterm # 1/Assignments – (7th Week): 30%

Midterm # 2/Assignments – (12th Week): 20%

Final Exam: 40%

COURSE DESCRIPTION

A study of basic concepts emphasizing analysis of aggregate economy. Examination of the processes of price determination and calculation of optimum demand for maximum profit. Basic principles of money-time relationship. Methods of investment assessment and fundamental techniques of comparison of investment opportunities. Theories of depreciation of physical facilities and study of cost recovery systems.

TEXT BOOK

William G Sullivan, Elin M Wicks, & James Luxho, Engineering Economy, latest edition.

REFERENCE BOOKS

- 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", Addison Wesley, latest edition.

COURSE OBJECTIVES

- Introduction basic cost concepts and economic environment.
- Familiarization of principles of money time relations and basics of investments opportunities assessment and evaluation.

COURSE OUTLINE

Week Number 1: Introduction and overview

Week Number 2: Cost concepts and the economic environment.

Week Number 3: Principles of money – time relations, the concept of economic equivalence.

Week Number 4: Cash flow diagrams: Interest formulas and uniform series.

Week Number 5: Cash flow diagrams: Uniform gradient series and geometric sequence.

Week Number 6: Nominal and effective interest rates, continuous compounding and continuous cash flows.

Week Number 7: Exam # 1

Week Number 8: Applications of engineering economy: Methods of investment assessment.

Week Number 9: Comparing alternatives: Useful life is equal to study period.

Week Number 10: Comparing alternatives: Useful life is shorter than study period.

Week Number 11: Comparing alternatives: Useful life is longer than study period.

Week Number 12: Exam # 2.

Week Number 13: The imputed market value technique

Week Number 14: Depreciation: Historical Methods

Week Number 15: Depreciation: cost recovery systems

Week Number 16: Final exam.