



BS-160

Engineering Economics

BEE

Prerequisite:

Credit Hours: 2+0

Objective

This course deals with the thought processes, concepts, methods, and knowledge bases used by engineers to cost engineering projects and to evaluate the merit of making a particular investment, and to choose the best of a series of alternative investments to achieve a desired objective.

Pre-Requisites or background study required

Nil

Consulting Hours

Instructor :

Text books

- Donald E. Newman, *Engineering Economic Analysis*, 6th Ed.

Reference book

- Contemporary Engineering Economics: by Park et al, Pearson
- Principles of Economics by Sameulson 13th Edition
- Applied Mathematics for Business Economics and the Social Sciences by Frank S Budnick

Course Contents

Topics covered in the subject include:

Lecture Topics

1) Introduction to engineering economics

Economics vs. Engineering economics; typical problems addressed by engineering economy studies - public sector, private sector, personal; engineering economics studies

2) Basic cost concepts

Basic terms and concepts - fixed costs, variable costs, average cost, marginal cost, revenue, profit, depreciation, sunk costs; typical characteristics of cost functions; break-even analysis

3) Time value of money and discounted cash flow calculations

What is interest; simple interest; compound interest - nominal vs. effective interest; continuous compounding; time-value equivalencies; compound interest factors; the functional notation system; cash flow diagrams; solving interest problems

4) Comparing alternatives

Identifying and defining alternatives; present worth comparisons; equivalent annual worth comparisons; rate of return comparisons

5) Public sector engineering economy studies the public sector; sources and costs of capital; the discount rate question; benefit-cost analysis; applications

6) Private sector engineering economy studies income tax considerations; sources and costs of capital; example applications; some basic Canadian tax law provisions; incentives for private sector investment

Weightage

One Hour Tests	:	30 %
Quizzes:		10%
Assignments/Project:		10%
Final Test	:	50 %

Computer Usage: Statistical Package for Social Sciences (SPSS), E-View

Project Work: Students will be given a practical nature problem to inculcate analytical skills in problem solving

Research Work: N/A

Quiz policy

The quizzes will be unannounced and normally last for ten minutes. The question framed is to test the concepts involved in the last few lectures. It will be the instructor's will to choose the number of quizzes for evaluations purposes.

One Hour Test policy

There will be two one hour tests. The portion of syllabus covered in 1st one-hour test will not be asked in the 2nd one hour

Group Mail Address

If the requirement of the course is such a group mail be made and all discussion on subject matter will be done.