

IE 341

Engineering Economy

Instructor: Gürkan Kumbaroğlu, Associate Professor of IE
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Course Description:

This course introduces the fundamentals in the determination of the economic feasibility of engineering undertakings. Students will be equipped with a sound understanding of the principles, basic concepts and methods of engineering economy; it is intended that students develop proficiency with these methods and with the process for making rational decisions in the financial comparison of engineering alternatives. Other objectives include a student understanding of money-time relationships, equivalence, replacement analysis, public project evaluation, utility theory, inflation, depreciation, and uncertainty.

Topics:

1. Introduction-Cost Concepts 3 classes
2. Money-Time Relationships and Equivalence 6 classes
3. Applications of Money-Time Relationships 3 classes
4. Comparison of Alternatives 3 classes
5. Depreciation and Income Tax Considerations 3 classes
6. Consideration of Inflation and Cost Estimating 3 classes
7. Replacement Analysis 3 classes
8. Economy Studies for Public Projects 3 classes
9. Breakeven Sensitivity and Risk Analysis 3 classes
10. Decision Models and Utility Theory 3 classes

Grading:

Midterms : 50% (25% each)
Quizzes : 20% (5% each)
Final : 30%

Textbook:

Sullivan, W.G., Wicks, E.M., and Luxhoj, J.T., Engineering Economy, 13th Edition, Prentice Hall 2006.

Complementary References:

Blank, L.T., Tarquin, A.J., 2005. Engineering Economy, 6th Edition.
DeGarmo, E.P., Sullivan, W.G., Bontadelli, J.A., 2002. Engineering Economy, 12th Edition.
Bussey, L., 1978. The Economic Analysis of Industrial Projects.
Dixit, A.K., Pindyck, R.S., 1994. Investment under Uncertainty.