



GE303 Engineering Economy (Required Course)

Code and Name: GE303 Engineering Economy

Credit Hours: 3 (Lecture: 3, Tutorial: 1)

Textbook:

- Fundamentals of Engineering Economics, C.S. Park, 3rd Edition, Pearson, 2013.

Other References:

- Engineering Economy, L. Blank, A. Tarquin, 7th Edition, McGraw-Hill, 2011.

- Engineering Economy: Applying Theory to Practice, T. Eschenbach, 3rd Edition, Oxford University Press, 2011.

Course Description:

This course investigates methods of economic analysis for decision making among alternative courses of action in engineering, business and government applications. Topics include: Time value of money, Money management, Equivalence calculations under inflation, Present worth analysis, Annual Equivalence Analysis, Rate of return analysis, Benefit-Cost ratio & profitability index analyses, Annual depreciation & book value.

Pre-requisites: MATH106 Calculus-II.

Co-requisites: None

Course Learning Outcomes:

With relation to ABET Student Outcomes (SOs: 1-7)

1. Illustrate different techniques of economic analysis. (1)
2. Define simple and compound interest, present and future worth, inflation, etc. (1)
3. Describe the process of project evaluation with the effects of interest and inflation. (1, 2, 6)
4. Explain the procedure of economic worth analysis. (1, 2, 6)
5. Compare future and present worth of a project with and without inflation. (1)
6. Develop cash flow diagrams. (1)
7. Justify investment through payback period and present worth analysis. (1, 2, 6)
8. Evaluate net present worth of project. (1)
9. Illustrate the differences between actual and constant dollar analysis. (1, 2, 4, 6)
10. Evaluate annual equivalent worth of single and multiple projects. (1)
11. Assess the feasibility of a project based on unit profit and unit cost calculations. (1, 2, 6)

Topics to be covered:

- Introduction to Engineering Economy.
- Time Value of Money.
- Money Management.
- Equivalence Calculations under Inflation.
- Present Worth Analysis.
- Annual Equivalence Analysis.
- Rate of Return Analysis.
- Review of Course.

Grading Policy:

The grading for the course are 60% coursework and 40% Final Exam. The course work consists of two Midterm Exams, where each midterm exam is worth 20%. It also includes quizzes, homework, and projects for the remaining 20% that is modified by the course instructor.

