Revised 2/24

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
EGR 206 - ENGINEERING ECONOMY (3 CR.)

Course Description

Presents economic analysis of engineering alternatives. Studies economic and cost concepts, calculation of economic equivalence, comparison of alternatives, replacement economy, economic optimization in design and operation, depreciation, and after-tax analysis. Lecture 3 hours per week.

General Course Purpose

This is an introductory course in the application of economic principles to engineering. It is intended for engineering transfer students, who will develop skills for economic analysis in engineering decision making. The course will use spreadsheet software to perform economic analysis.

Course Prerequisites/Corequisites

Prerequisite: MTH 162 or MTH 167

Course Objectives

Upon completion of the course the student will be able to:

- Apply economic boundary conditions inherent in engineering.
- Use fundamental tools including spreadsheet software in economic decision making.
- Use cost models and equivalence in realizing engineering products and services.
- Analyze present worth, future worth, annual worth, and rate of return of engineering projects.
- Perform benefit/cost, breakeven and payback analysis.
- Calculate interest and depreciation of engineering projects.
- Use the impact of taxes and inflation in preparing engineering cost models.
- Determine the economic impact of engineering project schedules.
- Illustrate how the economy affects engineering projects and services using case studies.

Major Topics to Be Included

- Foundations of Engineering Economy
- How Time and Interest Affect Money
- Combining Factors and Spreadsheet Functions
- Nominal and Effective Interest Rates
- Analysis Using Present Worth and Future Worth Values
- Annual Worth Analysis
- Rate of Return Analysis
- Benefit/Cost Analysis and Public Sector Economics
- Replacement and Retention Decisions
- Breakeven and Payback Analysis
- Effects of Inflation
- Depreciation and Depletion Methods
- After-Tax Economic Analysis