

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: EGR 206

Credits: 3

Course Title: Engineering Economy

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

Engineering elective for all AS Engineering majors.

Course Pre/Corequisites:

Pre- or corequisite: ENG 111

Course Objectives

Upon completing the course, the student will be able to:

- a. determine which alternative should be chosen based on the present economy.
- b. use the interest formulas to solve engineering economics problems.
- c. explain the meaning of equivalence.
- d. solve problems of equivalent using a single factor or several factors.
- e. explain the different types of depreciation.
- f. solve engineering economics problems using the methods of depreciation.
- g. classify the different costs involved in an engineering project.
- h. solve problems involving these costs.
- i. explain the bases for comparison of alternatives.
- j. solve problems of comparison of alternatives with unequal first cost, unequal service lives, etc.
- k. determine the break-even costs between two alternatives.
- l. determine the minimum cost with one alternative.
- m. explain the reasons for replacement.
- n. determine the cost of replacements in engineering economics.
- o. determine the cost of public activities in engineering economics.
- p. determine the amount of income taxes involved in engineering economy analysis.
- q. determine the cost of existing operations in engineering projects.
- r. solve problems of inflationary effects of engineering economy.
- s. solve problems of probability of future events in engineering economy.
- t. solve problems using electronic spreadsheet such as Excel.

Major Topics to be Included

- a. Introduction to engineering economy
- b. Cost concepts
- c. Time value of money operations
- d. Comparison of alternatives
- e. Depreciation and income tax considerations
- f. Economic analysis of projects in the public sector
- g. Break-even, sensitivity and risk analysis
- h. Inflation and purchasing power of money

Effective Date of Course Content Summary: August 2008