

Virginia Western Community College

EGR 206

Engineering Economy

Prerequisites

Co-requisite: MTH 264 or equivalent

Course Description

Presents economic analysis of engineering alternatives. Studies economic and cost concepts, calculating economic equivalence, comparing alternatives, replacement economy, economic optimization in design and operation, depreciation, and after tax analysis.

Semester Credits: 3 Lecture Hours: 3* Lab/Recitation Hours: 0

Required Materials

Textbook:

Engineering Economy w/MyEngineering lab Access with Pearson eText -- Access Card Package, 16/E, Author: Sullivan, *Virginia Polytechnic Institute and State University* Pearson Publishing, ISBN# 9780133750218

Access to Pearson MyEngineeringLab is required for this course which is supplied for free if purchasing a new text. If using a used text, a \$57 access fee will be required

Other Required Materials:

Engineering Computation Paper

Calculator

Access to Microsoft Excel, 2010 or newer.

The following supplementary materials are available:



1. Excel Training Online
 - a. <http://office.microsoft.com/en-us/training/>
 - b. <http://www.gcflearnfree.org/excel2010>
 - c. <http://www.excel-easy.com/>

Course Outcomes

At the completion of this course, the student should be able to:

1. Calculate the total revenue, total cost, and maximum profit for selling a product.
2. Apply 'time value of money' principles to personal and business situations.
3. Evaluate a single engineering project using 'time value of money' principles.
4. Compare multiple engineering projects and select the most economical solution.
5. Apply breakeven and sensitivity analysis to engineering projects



Topical Description

(Engineering Economy Chapters by Week, Subject to Change)

Week #	Week of:		Topic	EC Chapter
1	January	12	Introduction	1
2		19	Cost Concepts and Design Economics	2
3		26	Cost-Estimation Techniques	3
4	February	2	The Time Value of Money	4
5		9	The Time Value of Money	4
6		16	Evaluating a Single Project	5
7		23	Comparison and Selection of Multiple Projects	6
8	March	2	Comparison and Selection of Multiple Projects	6
		9	Spring Break	
9		16	Depreciation and Income Taxes	7
10		23	Replacement Analysis	9
11		30	Benefit- Cost Ratio Method	10
12	April	6	Breakeven and Sensitivity Analysis	11
13		13	Probabilistic Risk Analysis	12
14		20	Capital Budgeting	13
15		27	Decision Making	14
16	May	4	Finals	

Test 1: Week of February 16thTest 2: Week of March 30thFinal: Week of May 4th**Notes to Instructor**

1. All instructors teaching this course will use the same textbook.
2. Spreadsheet analysis must be an integral part of problem-solving in the course.
3. Course content within this course may be covered at the instructor's discretion but with all topics being understood.



4. This course and its grades will be structured around a minimum of 2 tests, final exam, and homework.
5. At the end of the semester, all instructors will give the outcome assessment as it relates to the final exam to the program head at the same time they prepare there student final grades.
6. A comprehensive final exam will be given, which must be at least 10% of the final grade.

