

MURRAY STATE UNIVERSITY

DEPARTMENT OF INDUSTRIAL AND ENGINEERING TECHNOLOGY

COURSE NUMBER: ENT 393

CREDIT HOURS: 3

I. TITLE: Engineering Economy

II. CATALOG DESCRIPTION:

Economic evaluation and financial analysis of engineering systems alternatives to optimize the engineering process. Prerequisites: CSC 135 and MAT 230

III. PURPOSE:

This course is a required technical science course designed to familiarize the Engineering Technology student with the basic concepts of finance as it pertains to engineering projects.

IV. COURSE OBJECTIVES:

a. General Course Objectives:

The objective of this course is to teach the fundamental principles of economics and finance as it pertains to engineering alternative decision making.

b. Specific Objectives:

As a result of this course, each student will develop an understanding of:

1. The criteria involved in making a decision based on economic analysis.
2. The time value of money.
3. Present worth, annual cash flow, rate of return, benefit-to-cost and other methods.
4. The effect of income tax and inflation / deflation.
5. The use of the computer in economic analysis.

V. CONTENT OUTLINE:

- a. Introduction & the decision making process
- b. Engineering decision making, equivalence and compound interest
- c. Compound interest & formulas
- d. Project and present worth analysis
- e. Annual cash flow analysis
- f. Rate of return analysis
- g. Other analysis techniques
- h. Depreciation and income tax
- i. Inflation & deflation
- j. Estimation of future events & minimum ROR
- k. Investment situations

VI. INSTRUCTIONAL ACTIVITIES:

Course will consist mainly of lectures, class discussion, problem solving and computer projects.

VII. FIELD, CLINICAL AND/OR LABORATORY EXPERIENCES:

None

VIII. RESOURCES:

Computer Lab IT – 230

IX. GRADING PROCEDURES:

Hourly Exams	70%	100% - 90%	A
Homework	20%	80% - 89%	B
Computer Projects	10%	70% - 79%	C
		60% - 69%	D
Total	100%	0% - 59%	E

X. ATTENDANCE POLICY:

Students are expected to attend class regularly. Each student will be held responsible for all material covered, homework assigned, changes in schedule, etc. that might have occurred during missed periods.

Make-up: Permission from the instructor prior to the due date is necessary for the make-up of any assignment. Permission from the instructor prior to the scheduled exam time is necessary for the make-up of any missed exam. Exceptions will be made in the case of sudden illness or accident if supporting statements are received from a qualified physician, addressed to the instructor, stating that the student was prevented from performing the missed task.

XI. ACADEMIC HONESTY POLICY:

Complete academic integrity is expected of all students. Graded individual assignments and examinations should consist solely of the work of that individual whose name is on the document. Cheating on examinations will not be tolerated. Cheating is defined to be the use of any unauthorized source of information for the purpose of deceiving the instructor in evaluating the student's performance or to gain an unfair advantage over fellow students. Students who are caught cheating will receive a failing grade in the course.

XII. REQUIRED TEXT:

"Engineering Economic Analysis" by Donald Newman, 11th Edition/2011, publisher Oxford Press, ISBN#: 10: 0199778124

XIII. PREREQUISITIES:

CSC 135 AND MAT 230

XIV. STATEMENT OF AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY:

Murray State University endorses the intent of all federal and state laws created to prohibit discrimination, Murray State University does not discriminate on the basis of race, color, national origin, gender, sexual orientation, religion, age, veteran status, or disability in employment, admissions, or the provision of services and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford individuals with disabilities equal access to participate in all programs and activities. For more information, contact Sabrina Y. Dial, Director of Equal Opportunity, Murray State University, 103 Wells Hall, Murray, KY 42071-3318. Telephone: 270-809-3155 (voice), 270-809-3361 (TDD).