

## **ENGR 303-3 Engineering Economy**

**Department: Mathematics, Physics and Engineering**

**Credit Hours: 3**

**Required or Elective (circle one)**

### **Current Catalog Description:**

Principles of economics equivalence; time value of money, analysis of single and multiple investments; comparison of alternatives; capital recover and tax implications; certainty; uncertainty; risk analysis; public sector analysis; and break-even concepts.

### **Course Schedule:**

3 lecture hr/ wk, 0 lab hr/week

### **Coordinator:**

Dr. Larry Roderick

### **Prerequisites by Topic:**

Math 120 –Calculus I (co-requisite)

### **Course Learning Goals:**

Upon completion of this course with a C or better, students will be able to utilize the following concepts to solve problems:

- Accounting and engineering economy
- Interest and equivalence
- Analysis of investments
- Comparison of alternatives
- Break-even concepts
- Project management

### **Program Outcome Map:**

The Program Outcomes for Engineering Physics are:

- A. an ability to apply knowledge of math, engineering & science
- B. an ability to design and conduct experiments, as well as to analyze and interpret data
- C. an ability to design system, component or process to meet needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- D. an ability to function on multi-disciplinary teams
- E. an ability to identify, formulate, and solve engineering problems
- F. an understanding of professional and ethical responsibility
- G. an ability to communicate effectively
- H. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- I. a recognition of need for, and ability to engage in life-long learning
- J. a knowledge of contemporary issues
- K. an ability to use techniques, skills, and modern engineering tools necessary for engineering practice.
- L. a depth and breadth of knowledge in engineering and physics necessary to work in a multidisciplinary environment

This course addresses Criteria **A, F, H, and K.**

### **Academic Honesty:**

Cheating, plagiarism (submitting another person's materials or ideas as one's own), or doing work for another person who will receive academic credit are all-impermissible. This includes the use of

unauthorized books, notebooks, or other sources in order to secure of give help during an examination, the unauthorized copying of examinations, assignments, reports, or term papers, or the presentation of unacknowledged material as if it were the student's own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.

**Students with Disabilities Policy:**

It is the policy of Tarleton State University to comply with the Americans with Disabilities Act (ADA) and other federal, state, and local laws relative to the provision of disability services. Students with disabilities attending Tarleton State University may contact the Office of Disability Services at (254) 968-9478 to request appropriate accommodation. Furthermore, formal accommodation requests cannot be made until the student has been officially admitted to Tarleton State University.

**Contribution of Course to Meeting the Professional Requirement:**

Engineering Topics: 100%

**Status of Continuous Improvement Review of this Course:**

**Prepared by:** *Larry Roderick*

**Date:** *August 15, 2004*

**Reviewed by:** *Denise Martinez*

**Date:** *Apr. 23, 2005*

**Review Notes:**

Reviewed in context of FE material and capstone course. – dmm