Appendix I  Civil Engineering: ABET Self-Study Report - 2007

(1)  
**Department:** Mechanical and Industrial Engineering  
**Number:** BE 2326  
**Title:** Engineering Economy

(2)  
**Required or Elective Course**  
Required

(3)  
**Catalog Description:**  
Application of economics to engineering and industrial problems, which require knowledge of engineering for their solution.

(4)  
**Prerequisites:**  
MATH 3112 with a grade of “C” or better

(5)  
**Textbook:**  

(6)  
**Course Objectives:** After completing this course, student should be able to:  
Apply mathematical techniques to solve economics problems (*A*)  
Construct and use cash flow diagrams (*B and D*)  
Understand the concept of the time value of money (*I*)  
Evaluate different alternatives that have different cash flows (*B*)  
Formulate cost models (*E*)  
Understand the importance of incorporating IRS rules and regulations to cost models, and knowing how to stay current (*K and J*)

(7)  
**Topics covered:**  
Basic Concepts of the time value of money  
Factors and their use.  
Simple and continuous compounding  
Nominal and Effective Interest.  
Use of Multiple factors.  
Present worth evaluation.  
Equivalent Uniform annual worth evaluation.  
Rate of return evaluation.  
Benefit cost ratio evaluation.  
Replacements analysis.  
Bonds.  
Inflation considerations.  
Effect of income taxes.  
Breakeven analysis.

(8)  
**Class/Laboratory Schedule:**  
TR 12:00 to 1:20 PM, UGLC #126
(9) Contribution of course to meeting the professional component:
This course contributes to the engineering science and engineering design component.

(10) Prepared by:
Vivek Tandon Based on Information Provided by T. McLean of Mechanical and Industrial Engineering.
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