University of Wisconsin - Madison
College of Engineering [EGR]
Last Offered: 2015-2016 Spring [1164]
Direct Link to this Syllabus :

1. I SY E 313, Engineering Economic Analysis
2. Credits: 3    Contact Hours: 3.3
3. Textbook and Materials: Engineering Economy; Blank and Tarquin; 7th; 2012

  a. Other Supplemental Materials: None

  • Specific Course Information:

  a. Brief description of the content of the course (Course Catalog Description): Financial accounting principles and cost systems, interpretation and use of accounting reports and supplemental information for engineering economic analyses, consideration of cost-volume-profit analyses, use of discounted cash flow techniques, flexible budgeting, transfer pricing, and capital budgeting.

  b. Pre-requisites or Co-requisites: MATH 217, 221, or 275 or concurrent registration

  c. This is a Required course.

  • Specific Goals for the Course:

  a. Course Outcomes:

     1. Apply a systematic process to making economic decisions. Understand the major capabilities and limitations of discounted cash flow analysis for evaluating investments. Be able to recognize, formulate, and analyze cash flow models. Understand the assumptions underlying these models, and the effects on the modeling process when these assumptions do not hold. Understand how to use Excel to address complex economic decisions. Be able to communicate the results of the modeling process to management and other non-specialist users of engineering analyses.
• **ABET Student Learning Outcomes** :

(a) Ability to apply mathematics, science and engineering principles.
(b) Ability to design and conduct experiments, analyze and interpret data.
(c) Ability to design a system, component, or process to meet desired needs.
(d) Ability to function on multidisciplinary teams.
(e) Ability to identify, formulate and solve engineering problems.
(f) Understanding of professional and ethical responsibility.
(h) The broad education necessary to understand the impact of engineering solutions in a global and societal context.

• **Brief List of Topics to be Covered** :

Economic decision making, cost estimation and cash flows, time value of many, nominal and effective interest, equivalence of cash flows, moment diagrams, present worth analysis, annual worth analysis, rate of return analysis, future worth, estimation and uncertainty, decision trees, depreciation, tax analysis, inflation, cost of capital and public sector analysis, financial planning and investing