CME 233: Business Economics for Engineers

Credits and Contact Hours: 3 credits; 1 hours and 20 minutes per session

Course Instructor: Donna L. Tumminello


Specific course information
a. Critical business concepts as they relate to engineering practices. Survey of general business environment and business functions, with an emphasis on ethics and law, economics, finance, and marketing. Project management of cost, risk and alternatives.

b. U3 or U4 standing

c. Required (Counts as a D.E.C course)

Specific goals for the course:

a. The objective of this course is to prepare engineering students to apply their knowledge with an understanding of the standard business practices and implications of their work. In addition, the course will focus on areas included in the NCEES FE Exam to help prepare students for the Ethics and Business Practices and Engineering Economics sections of the exam.

b. Enhance student performance by focusing on the following outcomes: (1) an ability to communicate effectively (2) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context (3) an understanding of professional and ethical responsibility (4) Project justification to corporate management, as well as the criterion a-k weighted below.

b. Criterion 3 a-k: Outcomes contribution

a. Ability to apply knowledge of math, engineering, and science 20% b1. Ability to design and conduct experiments 5% b2. Ability to analyze and interpret data 20%

c. Ability to design system, component or process to meet needs 30%

d. Ability to function on multi-disciplinary teams 5%

e. Ability to identify, formulate, and solve engineering problems 10%

k. Ability to use techniques, skills, and tools in engineering practice 10% Any other outcomes and assessments?

100%
Brief list of topics to be covered (including exams/quizzes):

Assignments (15%), Homework and attendance (20%), Ethics related written assignment (10%), Midterm (20%), Final exam (35%).

Week 2. The information technology environment and global business practices.
Week 3. Project management: Comparison of project alternatives and risk management.
Week 4. Project management: Schedules, cost
Week 5. Project management: Performance and operations. Relationship between schedules, project cost and performance.
Week 6. Intellectual Property Basics
Week 7. Basic accounting: strategy and finance Financial cost statements
Week 9. Financial analysis: Gross margins, percentages, and Return on investment (ROI)
Week 10. Operations: Quality management
Week 11. Marketing practices and competition: patented versus patent-expired product
Week 12. Contracts Ethics and Legal issues in business
Week 13. Contracts Ethics and Legal issues in business
Week 14 Review