Course title and number          ISEN 410 Advanced Engineering Economy
Term (e.g., Fall 200X)           Fall 2016
Meeting times and location      TBD

Course Description and Prerequisites
Principles of economic equivalence; borrowing, lending, and investing; establishing minimum attractive rate of return; replacement analysis; capital budgeting; uncertainty analysis; decision trees.
Prerequisites: ISEN 210 or ISEN 302

Learning Outcomes
At the end of the course, the student should be able to

- evaluate engineering project alternatives using economic criteria under uncertainty,
- perform the economic analysis to support capital budgeting decisions, and
- use decision trees to model uncertainty.

Instructor Information
Name                      TBD
Telephone number          TBD
Email address             TBD@tamu.edu
Office hours              TBD
Office location           TBD

Textbook and/or Resource Material
Course package for topics covered in weeks 10-14 will be provided with content from
- Engineering Economy and the Decision-Making Process, Joseph C. Hartman
Grading Policies

Homework Assignments and Quizzes: 25%

Exam 1: 25% (around week 5 of the semester)

Exam 2: 25% (around week 10 of the semester)

Final Exam: 25% during the week of finals

Grades assigned are A for 90%–100%, B for 80%–89.9%, C for 70%–79.9%, D for 60%–69.9% and F for less than 60%.

Attendance and Make-up Policies

Class attendance is not optional. You are expected to attend all class lectures except for university excused absences. Make-up for the exams and quizzes will be offered only in case of a university excused absence. The university rule regarding excused absences can be found at http://student-rules.tamu.edu.rule07.

Course Topics, Calendar of Activities, Major Assignment Dates

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<th>Week</th>
<th>Topic</th>
<th>Required Reading</th>
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<td>1</td>
<td>Review of Engineering Economic Analysis</td>
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<td>Borrowing, Lending and Investment</td>
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<td>Establishing a Minimum Attractive Rate of Return</td>
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<td>Replacement Analysis (Before tax and after tax)</td>
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<td>Supplementary Analysis (Decision trees and risk), Exam 1</td>
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<td>6</td>
<td>Supplementary Analysis continued (Decision trees and risk)</td>
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<td>7</td>
<td>Economic Analysis in the Public and Regulated Sectors (Benefit-Cost; Utility; Rate Setting)</td>
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<td>8</td>
<td>Capital Budgeting (Binary Programming)</td>
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<td>9</td>
<td>Obtaining and Estimating Cash Flows</td>
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Final exam during the week of finals

Other Pertinent Course Information

The course will use computational tools to solve engineering economic analysis problems. Students are expected to apply prior knowledge of MATLAB and higher level programming language in this course. Relevant handouts will be provided throughout the course.

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu

Academic Integrity

For additional information please visit: http://aggiehonor.tamu.edu

“An Aggie does not lie, cheat, or steal, or tolerate those who do.”

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning and to follow the philosophy and rules of the Honor System. Ignorance of the rules does not exclude any member of the Texas A&M University community from the requirements or the processes of the Honor System. For additional information please visit: http://student-rules.tamu.edu/; http://student-rules.tamu.edu/aggiecode; and http://student-rules.tamu.edu/rule20. The complete information of university regulations regarding the handling of academic misconducts (including the appeal process) can be found at http://aggiehonor.tamu.edu/.

I, <insert instructor name>, as the rest of the Industrial & Systems Engineering Faculty, uphold the Aggie Honor Code as an axiom of our academic excellence. We consider its sincere observance to be essential for membership in our department and Texas A&M. We extend you the trust conferred to those who faithfully adhere to our honor code. Abuse of this trust is intolerable, thus I will report and assign an extreme penalty to those who do not stand with us in preserving the integrity symbolized by the Aggie Honor Code, “An Aggie does not lie, cheat, or steal or tolerate those who do.”

In this course the penalty for any violation of the Aggie Honor Code, as minimal as it may be, is F*.