IE 430 Economic Foundation of Quality Systems

Syllabus, Fall 2014, University of Illinois at Urbana-Champaign

Credit Hours:
3 or 4

Course Overview:
We will learn roles of the interest rate, annuity, equivalent values, taxes, exchange rates, depreciation, risks, etc. and the associating computing techniques in this course. With the familiarity with these concepts, students can do engineering economic analysis and compare alternatives. We will also learn some models and methods (Present Worth, Future Worth, Annual Worth, Internal Rate of Return, External Rate of Return) for engineering economic analysis. Both the deterministic analysis (Replacement Analysis, Benefit-Cost Ratio Analysis, Breakeven Analysis Sensitivity Analysis) and the probabilistic analysis (Risk Analysis) will be introduced.

Course Objectives:
Students should clearly know and perhaps memorize the philosophy and definition of important economic concepts and be able to do the computations by hand and by EXCEL. We will see lots of examples in this course. Make sure to understand all of them.

Class meetings:
Tuesdays, Thursdays, 4:00-5:20 pm, 114 Transportation Building

Instructor:
Yu-Ching Lee, ylee77@illinois.edu, Yes, I reply most of the emails.
Office: 214 Transportation Building
Office Hours: Wednesdays 5:00pm-6:00pm or “by appointment”

Teaching Assistant:
Office Hours:

Course Format:
(1) Lecture slides
The lecture slides are based on the following textbook


(2) e-Homework and e-Learning: Pearson MyEngineeringLab
An Access to Pearson MyEngineeringLab is Required!

Besides the required e-Homework, there are many resources (Study Plan, Media, etc.) on the MyEngineeringLab for you to study the course materials.

(3) Software: Excel

Course Website(s):

- Compass 2g (https://compass2g.illinois.edu/)
- MyEngineeringLab (http://www.pearsonmylabandmastering.com/)
  - instructor’s course ID: lee88518 (Fall 2014 IE 430 specific)

Grading Weight:

e-Homework 35%; Attendance 5%; Midterm exam 30%; Final exam 30%

Letter Grades:

A+: 93 and above
A : 85-92 (round to the nearest integer)
A- : 80-84 B+: 75-79 B : 70-74 B- : 65-69 C+: 60-64 C : 55-59
C- : 50-54 D+: 45-49 D : 40-44 D- : 35-39 F : 34 and below

e-Homework Policies:

- You will use the course ID to register on the Pearson MyEngineeringLab. To be able to use MyEngineeringLab, you also need to buy an access alone or obtain an access with the textbook (hardcopy or eText.)
- The due date of each e-Homework will be 1 week after the announcement. The homework descriptions and the due dates will also be announced in class and on Illinois Compass2g.
- The numbers/values used in the e-homework questions for each student are different and may not be the same with the values in the textbook. The values are generated automatically for each user of MyEngineeringLab.
- The e-homework will be scored automatically. Please double check that your scores are recorded in the system after finishing each homework.
- You only have two chances to try to answer each question before the correct solution appears to you, but you can view all the questions first before attempting to answer them.
- No late homework is accepted.

Exam Schedule (tentative):

Midterm: in class, 10/7/2014. (no class on the next meeting day, 10/9/2014)
Final: as scheduled by the University (no class on 12/9/2014)

Exam Format:

Part I 75% Multiple Choice (We will use the scantron form)
Part II 25% Short Answers and Computational

**Exam Policies:**
- You are allowed to bring a calculator and one single-sided cheat sheet (letter size, 8.5 × 11) to the exams.
- The use of cell phones, smart phones, laptops, and other electronic devices are prohibited during the exams.
- Discussing the answers to the questions during the exams is prohibited.
- Seats will be assigned and announced on the day of the exams on Compass 2g and in the classroom. You must sit accordingly.

**The 4th credit**
If you register for a 4-credit session, you need to additionally turn in a term paper report (10 pages) before the final exam to earn the 4th credit.

**Weekly Course Contents:**

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