ECO 5340. Decision Making Under Uncertainty
W 6:30 – 9:20 PM Room 243 LEE
Spring 2015

Instructor
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Textbook
(EGS) Eeckhoudt, l., C. Gollier, and H. Schlesinger (2005).
    Economic and Financial Decisions under Risk. Princeton
    University Press.

Additional Books
(NS) Nicholson, W. and S. Christopher (2008). *Microeconomic
    Theory*. Thompson Southwestern.
(MWS) Mendenhall, W., D. Wackerly and R. Scheaffer (1990).
    Mathematical Statistics with Applications. PWS – Kent
    Publishing Company.
(TM) Thomas, C. and S. Maurice (2010). *Managerial Economics*.
    McGraw – Hill Irwin.
(PR) Pindyck, R. and D. Rubinfeld (2009). *Microeconomics*. Pearson
    Prentice Hall.

Prerequisite
ECO 3301, ECO 3302 and one of the following: STAT
2301, 2331 or 4340 or ITOM 2305

Objectives
General. To analyze economic agents' decisions when risk is
explicitly considered.
Particularly, in order to understand how risk is incorporated into the
decision of economic agents we will first develop the general
framework of decision models under risk. Then we will apply that
framework to decisions related with insurance coverage, investment,
savings, pricing, and production.

Learning Outcomes
Upon successful completion of this course, students will be
able to:
- Answer key questions in the field of decision making
  under uncertainty.
- Compare uncertain prospects using different rules.
- Identify basic economic and financial models of
  decision making under risk.
- Solve for the equilibrium in decision models in which
  risk is explicitly incorporated including insurance
  coverage, investment, savings, pricing, and production.
- Discuss the effect of changes in exogenous variables
  over the decision variables in the various models
  analyzed in the course.

Tools
In this course we will develop models that comprise formulation,
development and the analysis of the solution. In that process
algebra, differential calculus, statistics and optimization tools will
be **intensively** used. The course assumes knowledge of

Microeconomics at the intermediate level, statistics, differential calculus and the use of MSExcel.
A personal computer will be required to run some simulations of the decision models studied in the course.

Course outline
I. REVIEW OF STATISTICS AND CALCULUS
II. THE FRAMEWORK
      1. Expected utility
      2. Risk aversion
      3. Measures of risk
II. DECISION MODELS UNDER RISK
      4. Insurance
      5. Portfolio choice
      6. Consumption and savings
      7. Production and inventory

Course evaluation.

Mid-term exams (2): Feb 25th and Apr 8th	40%
Final exam (includes all the material covered during the semester): May 6th, 6.30 pm	30%
Workouts and homework	20%
Risk Game and Simulations	20%

Grading scale.

92 and above	A	72-77	C
90-91	A-	70-71	C-
88-89	B+	68-69	D+
82-87	B	62-67	D
80-81	B-	60-61	D-
78-79	C+	0-59	F

Rules
- You are expected to attend all lectures. If you miss a lecture, it is your responsibility to find out the material covered in class. I will check assistance regularly.
- Homework is considered individual work, unless otherwise indicated. It is due the first minute of the class session to which it was assigned. Late homework is not accepted. I may provide solution keys of the homework, which will be available on blackboard after the due date.
- No make-up exams will be given except for documented medical reason or in case there is a conflict with university extracurricular activity. It is your responsibility to schedule a make-up exam with me and to keep me informed about inability to appear in an exam due to university extracurricular activities.
- Please do not ask for extra credit work to improve your grade. The grade will be given using the criteria and grading scale provided in this syllabus.
- As a courtesy to me and to your fellow students, please arrive on time and turn off your cell phones.
- I am scheduling two Mid-Term exams. Each has a 20% weight over the final grade.
- Blackboard will be used to distribute related material, assignments and to make course related announcements. I recommend checking it every week.

Disability Accommodations: Students needing academic accommodations for a disability must first register with Disability Accommodations & Success Strategies (DASS). Students can call 214-768-1470 or visit http://www.smu.edu/Provost/ALEC/DASS to begin the process. Once registered, students should then schedule an appointment with the professor as early in the semester as possible, present a DASS Accommodation Letter, and make appropriate arrangements. Please note that accommodations are not retroactive and require advance notice to implement.

Religious Observance: Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence. (See University Policy No. 1.9.)

Excused Absences for University Extracurricular Activities: Students participating in an officially sanctioned, scheduled University extracurricular activity should be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work. (University Undergraduate Catalogue)

Honor Code. All SMU students are bound by the Honor Code (see SMU Student Handbook for a complete discussion of the SMU Honor Code). The code states that "any giving or receiving of aid on academic work submitted for evaluation, without the express consent of the instructor, or the toleration of such action shall constitute a breach of the Honor Code." A violation can result in an "F" for the course and an Honor Code Violation on your transcript.