Temple University Department of Economics  
Economics 203.001: Economics of Risk and Uncertainty  
CRN 067498  
Instructor: Dimitrios Diamantaras, Ph.D., Associate Professor  
Fall 2006

Class meets Tuesdays and Thursdays 10:10 a.m.–11:30 a.m. in Barton Hall Classrooms 209.  
Instructor’s Office: Ritter Annex 623.  
Office phone number and voice mail policy: 215 204 8169. The instructor will make every effort to answer voice mail messages received on work days within 24 hours. Answers to voice mail messages received over any weekend may be delayed until the next Monday.  
E-mail address: dimitrios.diamantaras@temple.edu. The instructor will make every effort to answer every e-mail received on work days within 24 hours. Answers to e-mails received over any weekend may be delayed until the next Monday. E-mail is the preferred method of out-of-classroom communication for this course.  
Office hours: Tuesdays and Thursdays 11:45 a.m.–12:30 p.m.; Wednesdays 11:00 a.m.–1:00 p.m. Additional hours are available by appointment; these must be scheduled at least two days in advance via e-mail.

Course description and goals

This is a course about the ways economic analysis handles risk and uncertainty. Risk and uncertainty are all around us and affect all aspects of our lives, but until fairly recently economic analysis was limited in its ability to analyze their effects. This situation started changing in the 1970s, and by now there is a vast literature analyzing risk and uncertainty issues in theoretical economics and in applications. We will cover the foundations of this work and some applications, in which we will also touch upon the strategic analysis provided by game theoretic techniques.

Prerequisites

Economics 52 or 92, Statistics 11 and 22. Economics 201 would be useful but it is not essential. Students also need an ability to learn and apply new mathematical techniques, something usually covered under the necessarily
vague term “mathematical maturity”. The need for mathematics will become obvious to students fairly quickly by the nature of the concepts that the course covers. While we will go over any mathematical techniques we need that were not necessarily covered in the prerequisite courses, we will do so quickly. Students who are uncomfortable with this idea are strongly advised to consider not taking this course.

**Texts**

- Diamantaras, Dimitrios, *Lecture Notes*. This text is available online on the Blackboard system. It was written for a previous incarnation of the course, in which we were using different textbooks. Partly as a result of this, it does not contain a perfectly smoothed out, unified notational system. It may be updated for this course, but most likely it will not be. On the other hand, there will be several explanatory notes added as necessary on Blackboard, to elucidate tough parts of the following textbooks as we go over them.

- Campbell, Donald, E. *Incentives: Motivation and the Economics of Information*, second edition, Cambridge University Press, 2006. This text is available at the Main Campus bookstore and all students should purchase it at once (bonus: it is a relatively inexpensive paperback). You will likely find this book extremely valuable after the course has ended, as it covers the core of up-to-date economics very nicely; in particular, it will serve very well any students who continue to graduate school in economics or related disciplines.

- Eeckhoudt, Louis, Gollier, Christian, and Schlesinger, Harris *Economic and Financial Decisions under Risk*, Princeton University Press, 2005. This is a surprisingly accessible graduate level textbook, crammed full of very useful material for this course. It will also be a great book to have for those who will continue studying this subject in graduate school. This text is available at the Main Campus bookstore and all students should purchase it at once (bonus: it is also an inexpensive paperback).
Disability resources

Any student who has a need for accommodation based on the impact of a disability should contact the instructor privately to discuss the specific situation as soon as possible. Contact the Disability Resources and Services office at 215 204 1280 at 100 Ritter Annex to coordinate reasonable accommodations for students with documented disabilities.

Course organization and grading procedures

There will be regular homework assignments (20 percent of the grade), a midterm examination (30 percent of the grade), and a cumulative final examination (50 percent of the grade). All assignments must be completed on time and must be turned in typed. The lowest two homework grades for each student will be dropped; in particular, this means that a student may miss up to two homework assignments without a grade penalty. However, the rule about no late assignments will be strictly enforced, and anyone missing more than two will face a grade loss (zero points on the late homework assignments beyond the first two). No make-up exams will be offered, unless there is a documentable medical or similar emergency (the severity of which is to be judged solely by the instructor) and the instructor is notified ahead of time if physically possible.

Attendance and in-class behavior policies

In all interactions involved in this course, we shall all respect each other and adhere to all University rules and regulations. In particular, disruptive behavior such as disrespectful statements or behavior, arriving for class late, leaving from class early, or distracting the attention of fellow students in the classroom in any way, are not allowed. The use of mobile phones, pagers, or wireless internet connections in the classroom is prohibited. The instructor will seek disciplinary action by Temple University against any violators of these rules if a caution proves insufficient to stop the offending behavior.

You are allowed to use a laptop in class to take notes, but you are strongly discouraged from doing so. Taking notes by hand and then transcribing them is a superb way of retaining the material presented in class, and typing it into a computer is much less effective. Furthermore, laptops distract other students, inhibit your ability to participate in class discussions, and are often a temptation to engage in wasteful activities, such as playing games, IMing
friends, updating one’s MySpace page, and others. The instructor reserves the right to conduct unannounced inspections of any laptops in class; if inappropriate activity is found, the student in question will be asked to turn off the laptop and never use it in class again and if the student refuses, the student will be ejected from the classroom. If any laptops are used in class, they must at all times be silent; make sure to mute the sound before getting into the classroom.

A note about expected effort: it is reasonable to expect to spend at least 7-9 high-quality study hours a week for this course outside of class. Less study effort will almost certainly result in a bad grade. It may take higher effort to achieve an A grade. Hours spent “studying” while listening to music or being distracted in any other way do not count as high-quality study hours.

Any student who remains in the class after the first week of classes indicates by this action his/her agreement to abide with all University rules and regulations and all policies and rules set out in this syllabus.

Course schedule

The semester dates are as follows:

**Week 1:** August 29, 31. Introduction to the course, mathematics review. Readings: Campbell, 1.1, 2.1, 2.2; Diamantaras, Calculus review notes. Homework 1 assigned.

**Week 2:** September 5, 7. Decision making under uncertainty. Readings: Diamantaras, lecture notes; Eeckhoudt et al., 1.1; Campbell 2.6. Homework 1 due; homework 2 assigned.

**Week 3:** September 12, 14. Definition and characterization of risk aversion, risk premium, certainty equivalent, degree of risk aversion. Readings: Eeckhoudt et al., 1.2, 1.3, 1.4; Diamantaras, lecture notes. Homework 2 due; homework 3 assigned.

**Week 4:** September 19, 21. Decreasing absolute risk aversion and prudence, relative risk aversion, some classical utility functions. Readings: Eeckhoudt et al., 1.5, 1.6, 1.7. Homework 3 due; homework 4 assigned.

**Week 5:** September 26, 28. Insurance decisions: an illustration of optimal insurance, optimal coinsurance. Reading: Eeckhoudt et al., 3.1, 3.2. Homework 4 due; homework 5 assigned.
Week 6: October 3, 5. Comparative statics in the coinsurance problem, the optimality of deductible insurance. Readings: Eeckhoudt et al., 3.3, 3.4. Homework 5 due; homework 6 assigned.

Week 7: October 10, 12. MIDTERM EXAM. Introduction to strategic uncertainty and game theory. Reading: Campbell, 1.5. Homework 6 due; homework 7 assigned.

Week 8: October 17, 19. Prisoner's dilemma game, repetition and equilibrium. Readings: Campbell, 1.6, 1.7. Homework 7 due; homework 8 assigned.

Week 9: October 24, 26. Adverse selection and insurance. Readings: Eeckhoudt et al., 12.1; Campbell 5.3, 5.7. Homework 8 due.

Week 10: October 31, November 2. Continuation of adverse selection discussion. Homework 9 assigned.


Week 12: November 14, 16. Corporate governance introduction, partnerships, the owner-employee relationship. Readings: Campbell, 4.1, 4.2, 4.3. Homework 10 due; homework 11 assigned.


Week 14: November 28, 30. Further discussion of agency theory. Homework 12 due.

Week 15: December 5, last class. Review.

Week 15: December 12, 8:30–10:30 a.m. FINAL EXAM.