Econ 171: Decisions Under Uncertainty

Fall 2006

Instructor: Stephen Stohs Department of Economics, UCSD

Course Objectives

Econ 171 is an introduction to decision theory using a Bayesian statistical framework. The objective of this course is to provide you with training in making careful and informed decisions under uncertainty. While the techniques covered are in common use in corporate decision-making, they can be helpful as well in household decision-making. Particular topics covered in the class include decision trees, payoff tables, alternative decision criteria, expected utility theory, and risk aversion.

This course requires an intensive ten-week commitment of time and effort. There are three basic pillars of success in this course:

1. Read and understand the assigned materials from the text.
2. Work and submit on time the required problem sets, and develop an understanding of how to solve similar problems in the process.
3. Attend lectures and understand the material covered in lecture.

Anyone who fulfills the above obligations in a timely manner can be reasonably assured of success in the course. Other strategies, such as substituting visits with a tutor for the pillars of success outlined above, are less likely to result in a favorable course outcome.

Prerequisites

The mathematical prerequisites for Economics 171 are Economics 120A and Math 20F. You should not enroll in the course unless you have satisfied these prerequisites.

Web Page

The course web page may be accessed at http://webct.ucsd.edu. Students are strongly advised to become familiar with accessing the web page early on, as this will be a repository for the syllabus, course lecture notes, problem sets and their solutions, and course announcements. Please access the course web site regularly in order to keep abreast of any changes. If you have any question regarding grading policy, exam format or any other issues, consult the course web page first. Chances are that you can find the answer there. If you cannot, please contact the TA or me by e-mail.

Textbooks

Required:

The required text for this class is *Making Decisions*, D.V. Lindley – Second Edition (Wiley 2001). I have asked that copies of the book be placed on reserve at SSH.

Problem Sets

There will be four assignments, each of which will carry a weight of 5% towards the final grade. The assignments will be posted on the course web site one week before the due date, and will be due at the start of lecture the following week. Group study and free discussion are encouraged, but you should write up and submit your own answers. Do not e-mail assignments. Late homework will generally not be accepted. If you have a valid excuse, please e-mail me. I will return your graded problem sets to class. If you are unable to pick up your problem set in class, you may pick it up at my office.

If you have any question on the problem sets, please ask the TA or me during our office hours. I would prefer to talk to you in person. If you do not have time to meet, you may also send your questions by e-mail, but note that e-mail is not an ideal medium for clearing up questions of understanding.

Examinations

There will be two midterm exams each carrying a weight of 15%, and a final exam carrying a 50% weight. All exams will be closed book. Bring a calculator which is capable of computing log and exponential functions. (Note: You should be able to find a suitable calculator for less than $20 if you do not already own one.) You do not need to bring a blue book, but you may wish to bring your own paper as a supplement to the writing space provided on the exam.

There will be no make-up exams. If for some reason you miss a midterm exam, then the remaining exams will carry its weight. An exception will be made for medical emergencies, in which case a doctor's certificate is required. Please hand in the doctor's certificate in class or stop by my office.

The midterm exams will be given during regular class time (8:00 am - 9:20 am), on October 31, 2006 and November 21, 2006. The final exam is scheduled for Tuesday December 5 from 8 - 11 a.m. The final will be cumulative, but there will be relatively more emphasis placed on the material covered in the second half of the course. The final exam is a firm requirement for completing the course.

Grading

All grading problems must be rectified within a week from the time a graded exam or assignment is returned.

- Re-grading of exams will not be allowed if they were written in pencil. Please address exam re-grading requests to me.
- If you have any questions or complaints regarding the grading of problem sets, please resolve them with the TA who graded the assignment.

Course grades will be computed as follows. First, if the mean score of an exam is below 75 percent, points will be added to all scores to bring the mean for that exam up to 75. Second, a weighted average of numerical scores will be obtained. Suppose your scores on the problem sets are 90, 90, 90 and 90. Further, assume your midterm and final exam scores are 80 and 85 (after possible adjustment), respectively. Then the final course average is computed as the weighted average rounded to the nearest integer: 90*5%+90*5%+90*5%+90*5%+80*35%+85*45% = 84.25 => 84. The weights on the problem sets, midterm and final exam cannot be changed. Finally, letter grades will be assigned using the following scale:

>=95 A+	**[80,85) B+**	**[65, 70) C+**	**[50 55) D**
[90,95) A	**[75,80) B**	**[60, 65) C**	**< 50 F**
[85,90) A-	**[70,75) B-**	**[55, 60) C-**	

Note that the scale is exact. So if your score is 84.25, you will get a B+. Grades very close to the boundary might be rounded up if the student is an active participant in class.

I will not assign letter grades on the midterm. However, you can refer to the above table to see where you stand.

E-mail and Office Hours

Instructor: Stephen Stohs sstohs@ucsd.edu

Office Hours: Immediately following class meeting time, otherwise by appointment

TAs: Jason Murray jhmurray@ucsd.edu and Justin Rao jmrao@ucsd.edu

TA office hours will be scheduled in class.

Course Outline

Basic Topic	Text Readings
Decisions and uncertain events	Ch 1
A numerical measure for uncertainty	Ch 2
The laws of probability	Ch 3
A numerical measure for consequences	Ch 4
The utility of money	Ch 5
Midterm 1	October 31, 2006
Bayes' Theorem	Ch 6
Value of information	Ch 7
Decision trees	Ch 8
Midterm 2	November 21, 2006
Final Exam	December 5, 2006