ECO 5341-701 - STRATEGIC BEHAVIOR, GAME THEORY AND APPLICATIONS TO ECONOMICS
SPRING 2003

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COURSE DESCRIPTION
Game theory is the study of strategic interaction between participants in any conflict situation. Game-theoretical models in economics have mushroomed over the last twenty years. Using the game-theoretic approach, it was possible to find the circumstances under which a monopoly can sustain substantial market power in the face of potential entry and the circumstances under which the threat of entry will force a monopoly to act as it is were a perfect competitor. Game-theoretic models of bargaining can account for bluffing, delay, and walking away from the table and have changed the way in which labor economists think about strikes, lockouts, and arbitration. Strategic models of international trade can explain why countries impose tariffs on exports and then sit down and negotiate with other countries to reduce them; how everyone in a country can benefit from subsidizing exports to other countries; and why the largest trading countries tend to trade similar goods with each other. Economists working on the economics of natural resources have used game theory to explain why common resources are depleted too rapidly. Banking and financial analysts have found game theory useful in explaining why the savings and loan industry collapsed and why banks sometimes will refuse to extend credit to borrowers who are willing to pay a higher interest rate than the bank is currently charging. Game theory can also explain why corporate managers who pay bribes to deter potential takeover attempts may be acting in the best interest of their shareholders. Strategic considerations have been also useful in macroeconomics in order to show why the promise by a central bank to reduce the rate of inflation may not be credible.

The course will provide the students with the basic equilibrium concepts of game theory and experience in applying it in economics. The emphasis of the course is not on general theorems and the ways to prove them but rather on the concepts, sample problems, and the applications of the theory to various areas of economics mentioned above.

TEXTBOOK
There is no textbook for this class. However, some of the problems to be discussed in the class can be found in
A. Dixit and B. Nalebuff, Thinking Strategically, W.W. Norton and Co. and
S. Bierman and L. Fernandez, Game Theory with Economic Applications, AddisonWesley.

GRADING
There will be three midterm tests and NO final test. Two best midterm grades will count 40% each, and the homework will count for the remaining 20% of the final grade.
The dates of the tests are February 12, March 26 and April 23.