SYLLABUS
ECON 356  SEC. 601
GAME THEORY AND ECONOMIC BEHAVIOR
SUMMER SESSION I, 2005

INSTRUCTOR: Porntawee Nantamanasikarn
OFFICE LOCATION: Saunders 536
PHONE: 956-2325
OFFICE HOURS: Monday to Friday 1:00 pm-2.00 pm and by appointment.
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COURSE DESCRIPTION

This course provides an introduction to game theory, the theory of how people make decisions in strategic situations where the best strategy depends on others’ decisions. As we develop the analytical framework in class, we will apply it to various problems in economics, business, politics, and sports. Examples include the provision of public goods, quantity and price competitions, nuclear war, bank runs, insurance market, incentive payments, time-inconsistent policy, international trade negotiation, OPEC cartel, credible threat and promise, negotiation and bargaining, signaling and screening.

The ultimate goal of this course is to enhance the student's ability to think strategically in complex situations. In order to better illustrate the concepts of the course, we will often play games with each other in class.

REQUIRED TEXTBOOKS


Note: additional readings will be provided in class.

EXAMS AND GRADING POLICY

The final grade will be based on midterm exam (30%), final exam (40%), case study presentation (10%), and homework assignments (20%). The case study is for you to apply theory learned in class to the real world problems that interest you. More information about the presentation will be provided later in class. You are encouraged to form a study group to help each other in doing homework but please make sure that you really understand the materials well. Simply copying others’ homework will result in a zero grade on that assignment. The homework is due at the beginning of the class on the due date. Late submission will result in 50% grade discount each business day. Course Grades will be assigned using +/- grading.
MAKE-UP EXAMS

Please note ahead the scheduled dates of the exams. Unless you have a very good reason for missing the exams, no make-up exam will be given. The only acceptable reason for missing an exam is your own illness or other family emergencies. You must also have a signed excuse from your physician in case of illness stating the nature of your illness (a statement saying that you weren't feeling too well is NOT enough).

DISABILITY

Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact the KOKUA Program at 956-7511 at Queen Lili’uokalani Center for Student Services 013 to coordinate reasonable accommodations for students with documented disabilities.

TENTATIVE CLASS SCHEDULE AND READING LIST (subject to change)

May 23, 24  Introduction (Ch. 1-2)
  • What is a game?
  • How do we think about them?

May 25, 26, 27  Games with Sequential Moves (Ch. 3)
  • How to set up the game to analyze? (game trees and extensive forms)
  • Backward induction (rollback equilibrium)

May 30  Memorial Day observed, no class

May 31, June 1-2  Games with Simultaneous Moves I (Ch. 4)
  • How to set up the game to analyze? (game tables and normal forms)
  • Dominance solvability, Nash equilibrium, best-response analysis, multiple equilibria, nonexistence of equilibrium

June 3, 6  Games with Simultaneous Moves II (Ch. 5)
  • Games that strategies are continuous variables
  • Best-response function, rationalizability

June 7, 8, 9  Combining Simultaneous and Sequential Moves (Ch. 6)
  • Games in both extensive and normal forms
  • Subgame perfect equilibrium, credibility, information set

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June 10  Midterm Exam
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June 13, 14, 15  Simultaneous-Move Game with Mixed Strategies (Ch. 7-8)
  • Mixed strategies in zero-sum and non-zero sum games
  • Why should players mix strategies, and how?
  • Randomization, minimax

June 16, 17, 20  Uncertainty and Information (Ch. 9)
  • Strategies to convey or conceal one’s own information and to elicit another player’s information
  • Asymmetric information, signaling, screening, moral hazard, adverse selection

June 21, 22, 23  Strategic Moves (Ch. 10)
  • How to alter the rule of the game to your advantage?
  • Use of commitment, threat, promise, reputation

June 24, 27, 28  The Prisoners’ Dilemma and Repeated Games (Ch. 11)
  • Why repetition may sustain cooperation?
  • Penalties and rewards, leadership

As time permits  Collective-Action Games (Ch. 12,)
  • How to solve the public goods, externalities problem?

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June 29-30  Case Study Presentations
July 1  Final Exam
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