ECON106G INTRODUCTION TO GAME THEORY

COURSE DESCRIPTION
Game theory provides tools to analyze interactions among strategic agents. The key idea of a game is that agents’ payoffs, such as utility, profit or welfare, are determined by everybody’s behavior. Therefore, one must take others’ strategies into consideration when make his/her own.

The course will introduce fundamental concepts in game theory, e.g. Nash equilibrium, mixed strategies, backward induction, commitment, sub-game perfect equilibrium, cooperation, incomplete information, Bayesian-Nash equilibrium and so on. Correspondingly, examples will be introduced with the concepts. They include business competition, labor market, marriage problem, bargaining, auction, etc.

PREREQUISITE
Students need to take ECON101, Intermediate Microeconomics (or equivalence) before taking this course. Besides, basic calculus and probability theory will be used in the analysis of some games. Pricing and Strategy, ECON 106P, is a good complement for this course.

COURSE OUTLINE
Week 1  Introduction and key concepts of Game
Week 2  Nash Equilibrium
Week 3  Sequential Game and Backward Induction
Week 4  Midterm exam; Repeated Game
Week 5  Game Theory with information asymmetry
Week 6  Final exam
*Topics may vary due to progress.

GRADING AND EXAMS
Letter grade will be given based on ONE midterm exam, ONE final exam and TWO assignments. Exams will consist of multiple choice questions and essay/problem questions. Assignments can be done by group work. (At most 3 members each group). Only printing copies are accepted.
• Midterm: August 28th, Wednesday ~ 35%
• Final Exams: September 11th, Wednesday ~ 45%
• Assignments: due dates determined later ~ 10% each

REFERENCES
Lecture notes are the main references of the course. They will be uploaded to course website. Additional textbooks may include:
If you want to learn more, there are some graduate level references
• Fudenberg D & Tirole J (1991) Game theory, MIT Press

OTHER POLICIES
POLICY ON MISSED EXAMS
If a student has a valid medical excuse AND can provide written documentation of such of an excuse, or if the student has received prior permission (at least one week in advance of the exam) to miss an exam from the instructor, then additional weight will be placed on the final exam. Prior permission to miss an exam is only granted for serious and compelling reasons. A student who misses an exam without a valid medical excuse or without receiving prior permission will receive a zero.

DISABLED STUDENTS and the OFFICE of STUDENT DISABILITIES (OSD)
Any student with a pre-existing illness or condition who requests special arrangements must (a) qualify under OSD rules for such special arrangements and (b) must take the exam with OSD. Any such arrangements with OSD must be made the first week of classes. The instructor must be informed of any such arrangement in the first week of classes. For additional information and the qualification conditions of the Office of Student Disabilities (OSD), please visit their website at http://www.osd.ucla.edu/Index.htm. All other students must take the exam at the scheduled time under the same time constraints. It is the responsibility of all students who request special arrangements with OSD to be familiar with all of their rules as well as the rules of this class.

ACADEMIC DISHONESTY
Any cases of cheating will be reported to the Office of the Dean of Students. For more details please refer to the Office of the Dean of Students website at http://www.studentgroups.ucla.edu/dos/