Econ 522-1 Game Theory and Strategy, Spring Quarter 2014
Thursdays 6pm to 9pm, Maguire Hall 360

Catalog Description (from LOCUS)
- This course studies cooperative and non-cooperative games and winning strategies and discusses prisoners dilemma, tragedies of common resources, executive compensation and auctions as applied to mergers and acquisitions. Students learn to think systematically to set strategy for the modern corporate firm in both cooperative and non-cooperative situations and to solve conflicts arising from principal agent problems. Prerequisite: Econ 420.

Course Overview
- This class focuses on noncooperative game theory and asymmetric information; it is designed to be a link between the theory and several applications. We are going to learn how to construct simple models and be able to obtain valuable conclusions from them. There is no specific mathematical prerequisite beyond the usual methods employed in Econ 420 – Managerial Economics or an intermediate microeconomics undergraduate class.

Course Objectives and Learning Outcomes
- Understand the theory behind games and their solution concepts.
- Acquire the tools to identify, analyze, and solve economics and business problems.

Required Materials
- Course materials will be posted on Sakai.
# Course Requirements and Grading Criteria

- **Evaluation:** Problem sets (20%), Midterm (30%), Final (50%).

- **Problem sets:** there will be five short problem sets. You should work in groups of two or three people, and hand in only one problem set per group. If you need to work individually I will accept it, but I strongly encourage working in groups. Problem sets will be due at the beginning of the class, with no exceptions (this is because I might want/need to discuss the solutions during the class). You should hand in a hard copy (it can be typed or hand-written); if this is not possible because of some extraordinary circumstance, I will accept an electronic submission to epetruzzello@luc.edu (the deadline is the same).

- **Midterm:** in class (closed book/notes), March 27th, 6pm – 7.15pm. At least one exercise of the midterm will be almost identical to an exercise from the problem sets. We will have class from 7.30pm to 9pm.

- **Final:** in class (closed book/notes), May 8th, 6pm – 9pm. The final is cumulative (though it has an emphasis on the material after the midterm). At least two exercises of the final will be almost identical to exercises from the problem sets.

---

# Quinlan School of Business Policies:

## Attendance

Class attendance and participation are fundamental components of learning, so punctual attendance at all classes, for the full class meeting period, is expected of Quinlan students. Faculty may set participation policies unique to their courses and use class participation as a component of the final grade. The student is responsible for any assignments or requirements missed during an absence.

## Make-Up Examinations

Loyola University academic policy provides that tests or examinations may be given during the semester or summer sessions as often as deemed advisable by the instructor. Because Quinlan faculty believe examinations represent a critical component of student learning, required examinations should be taken during the regularly scheduled class period. **Make-up examinations are discouraged.** Exceptions may be granted only by the faculty member or department chair, and only for unavoidable circumstances (illness verified by a signed physician’s note, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, or religious observance). A make-up final examination may be scheduled only with the permission of the appropriate Quinlan Assistant or Associate Dean.

If a make-up examination must be given, it is the responsibility of the faculty member to prepare, schedule, and proctor the exam. Limited assistance in proctoring make-up exams may be available through a designated Quinlan administrative assistant. For a student with a documented special testing need, please consult University policy concerning use of the testing center in Sullivan Center at Lake Shore Campus.
**Academic Integrity**

All members of the Quinlan School shall refrain from academic dishonesty and misconduct in all forms, including plagiarism, cheating, misrepresentation, fabrication, and falsehood...Plagiarism or cheating on the part of the student in individual or group academic work or in examination behavior will result minimally in the instructor assigning the grade of “F” for the assignment or examination. In addition, all instances of academic dishonesty must be reported to the chairperson of the department involved.


**Course Topics**

Each of these topics will include the analysis of applications such as: pricing, competition, marketing decisions, auctions, accounting, bargaining, public policy, health economics, political economics, international trade.

- Mixed strategies and continuous strategies.
- Dynamic games; non-credible threats, backwards induction, and subgame perfect equilibria. Repeated games and reputation.
- Information concepts. Games of incomplete information and Bayesian Nash equilibria.
- Dynamic games with incomplete information; perfect Bayesian equilibria.
- Asymmetric information models; moral hazard and adverse selection.
- Mechanism design, signaling, screening.

**Final Exam: Thursday May 8th, 6pm to 9pm**

**Please note:** This class may occasionally deviate from the course outline above. The instructor reserves the right to make changes as needed to the course syllabus.