

Game Theory
ECO 3161-001
Fall 2012

Class meeting time and place: 11:00am-12:15pm TR, Friday 111
Instructor: Artie Zillante
Office location and phone: 219B Friday, (704) 687-7589
Office hours: 12:30pm-2pm TR, and by appointment
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Course Description

This course is a first course into strategic decision making. The beginning of the course will focus on developing the techniques necessary to solve games. In the latter part of the course game theoretic analysis will be applied to a variety of topics, including, but not limited to, principal agent problems, auctions, and voting. The hope is that the student can see how the tools developed early in the course can be applied to a vast array of problems.

Course Objectives

By the end of the semester, the student should be able to:

1. Solve games of complete information
2. Understand how to solve games of incomplete information
3. Apply the solution concepts to the appropriate settings

Grading

Grades for this course will be based upon exams and assignments. There will be 6 assignments worth a total of 25% of your final grade, or 4.16% each. There will be two unit exams and a final exam, each worth 25% of your grade. The final exam will primarily focus on the last third of the material presented in the course, but I assure you that the latter material of the course relies heavily on the solution concepts developed earlier in the semester.

The date of the final examination has not yet been determined. I will inform you as to the date when it is available.

Make-up Exams: Make-up exams will be given only with the proper documentation for an excused absence. This lists consists of death, sickness (doctor's documentation required), calls to active military duty, religious holidays (please notify me beforehand), and excused absence for official university business.

Extra credit assignments will **NOT** be given in this class, although there may be some extra credit points on exams. Please do not ask to write an extra credit research paper.

Books and Materials

Required:

Harrington, Joseph. *Games, Strategies, and Decision Making*. Worth, 2009.

Additional texts that may be of interest (not required):

In addition to the required text some students may find the following books complementary to the text (or just interesting to read in their own right). I have not ordered them for the bookstore, but you should be able to track down a copy online if you are interested. Note that the Gibbons book is a more mathematical treatment while the McMillan book and Dixit and Nalebuff book provide a more descriptive treatment of the material. The Osborne and Rubinstein text is essentially a math textbook.

Dixit, Avinash and Barry Nalebuff. *Thinking Strategically*, W.W. Norton and Co., 1991.

McMillan, John. *Games, Strategies and Managers*, Oxford University Press, 1992.

Gibbons, Robert. *Game Theory for Applied Economists*. Princeton University Press, 1992.

Osborne, Martin and Ariel Rubinstein. *A Course in Game Theory*. MIT Press, 1994.

Web-site and communication

The website is

<http://belkcollegeofbusiness.uncc.edu/azillant/undergradgametheoryhomepage.html>.

This link will take you directly to materials for this course. From this site you may obtain a copy of the course syllabus, a course calendar that will be frequently updated, lecture outlines, and problem sets. Other materials may be added during the semester. I will make announcements in class as well as through email.

Tentative Course Outline

Chapters 1-2:	Introduction to game theory
Chapters 3-5, 7:	Solving two-person games
Chapter 6:	Noncooperative market games
Chapters 8, 13-15:	Sequential games and subgame perfection
Chapters 9-12:	Games with imperfect information

Attendance and other policies

Attendance is not required, but attendance tends to be positively correlated with performance. In economics we typically make the claim that “the consumer knows what is best for him or her”, and as an economist I like to test the validity of these claims. You will find that the only thing that really bothers me in class is when there is a disturbance that disrupts the learning process for the other students in class. In that respect, I ask that you limit disturbances and hopefully they will converge to zero quickly.

Academic Integrity

Students have the responsibility to know and observe the requirements of The UNC Charlotte Code of Student Academic Integrity (Catalog, page 275). This code forbids cheating, fabrication, or falsification of information, multiple submission of academic work, plagiarism, abuse of academic materials, and complicity in academic dishonesty. Any special requirements or permission regarding academic integrity in this course will be stated by the instructor and are binding on the students. Academic evaluations include a judgment that the student’s work is free from academic dishonesty of any type; and grades in this course therefore should be and will be adversely affected by academic dishonesty. Students who violate the code can be expelled from UNC Charlotte. The normal penalty for a first offense is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases the course grade is reduced to F. Copies of the code can be obtained from the Dean of Students Office. Standards of academic integrity will be enforced in this course. Students are expected to report cases of academic dishonesty to the instructor.

The Belk College of Business strives to create an inclusive academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.