



LAWRENCE UNIVERSITY
APPLETON, WISCONSIN 54912

GAME THEORY AND APPLICATIONS
WINTER 2008
ÁDÁM GALAMBOS

Syllabus

Meeting time: TR 9:00 – 10:50

Room: Briggs 217

Instructor: Ádám Galambos, Briggs 212, 832-6667, adam.galambos@lawrence.edu

Office hours: By appointment.

Class homepage: On Moodle.

Course description

What do tennis, legislation, family life and driving have in common? They all involve strategic situations: the consequences of people's actions depend on other people's actions as well. In fact, everything that involves other people is likely to be a strategic situation, at least sometimes. In this class we will learn about the logic of strategic situations. We will ask: How do people act when other people are involved? How can people promote their goals when other people are involved?

Class format

We will meet at our regular class times on Mondays and Fridays. In addition, pairs of students will meet with the instructor for 45 minutes to present homework problems on Wednesdays or Thursdays. Your midweek meeting time will be posted on Moodle every Monday. In every meeting, you will be expected to present some problems, and to critique your fellow student's presentation of other problems.

Readings

The required books for the course are *Playing for Real* and *Game Theory: A Very Short Introduction*, both by Ken Binmore. You are expected to read the required sections each week with a high degree of independence. The readings (together with our classes) will prepare you to do the homework problems. There will be additional readings posted on Moodle. These are not required unless I specifically indicate that they are, but they are likely to increase your enjoyment of the class.

Homework problems and project

Homework problems will be chosen from the large number of very well thought out problems in *Playing for Real*. Each week there will be some problems that you can (and probably should) work on with others, and one problem that you must do entirely on your own. In our meeting, I will ask you to do some problem(s) from those you worked out with others,

and you will be asked to present the problem you did on your own. This presentation should be specially well-prepared. You should pay attention not only to how you solve the problem, but also how you will present it clearly and efficiently, using the whiteboard.

Your written up problem sets will be due 24 hours after your meeting with me. The bulk of your work for this course will be your preparation for these weekly meetings, and you should expect to spend about 4-5 hours a week on preparing for them and writing up your problem sets.

Towards the end of the term you will also do a small project. This will involve finding a real world problem that you are interested in, and modeling it using game theoretic tools. Your project proposal will be due on 2/22, and should be a half-page description of the project together with references (1-inch margins, 12-point font, double-spaced). Your project write-up should be 3-5 pages long (1-inch margins, 12-point font, double-spaced), and will be due in the last class.

Grading

The midterm and final exam will each be worth 15%, the paper topic proposal is worth 5%, your project write-up is worth 10%, your presentation and critique in weekly meetings is worth 40%, and your problem set write-ups are worth 15%. The total number of points earned in the course will determine each student's final grade according to the following scale:

92%-100%	A
90%-91%	A-
88%-89%	B+
82%-87%	B
80%-81%	B-
78%-79%	C+
72%-77%	C
70%-71%	C-
68%-69%	D+
62%-67%	D
60%-61%	D-
-59%	F

I reserve the right to revise this scale downwards by uniformly increasing the band for each grade.

Honor Code

As with all classes at Lawrence University, the Honor Code applies to all activities related to this class. Please reaffirm the Honor Code on all written work.

I hope you will enjoy the class, and please contact me with any questions or concerns.