

Game Theory Course Information

Instructor: Patroklos Benatos

E-mail: pbenatos@outlook.com

Office hours: By appointment, usually after class or over the internet.

Course page: <https://pbenatos.web.elte.hu>

All details (including what you find on this page) and a blog to discuss matters during the semester are on this site.

Prerequisites: You need to be familiar with the style of *rigorous* and *precise* arguments. The mathematical tools needed for this course, together with some explanation, are listed on the “Is this Course For You?” page. In brief: the only requirement is that you be familiar with the basic elements of simple set theory. In the second half of the semester, we use some elementary probability theory, vectors and matrices and a little real analysis.

Approach: The overall key characteristic of the course is the emphasis on the *depth of understanding* rather than on the quantity of material. In addition to your knowledge of the field, the class also aims at contributing to your *ability to work in a team* and to your *presentation skills* (see Format).

Format: The class *combines the lecture* and the *problem solving seminar* format. Problem solving seminars are *teamwork-based* with *students presenting solutions*. This way, in addition to your understanding of game theory, you practice your ability to *work in a team* and improve your *presentation skills*. There is approximately one problem solving seminar every two weeks.

Text: The course does not follow any textbook but rather it is a mesh of several textbooks combined with the instructor’s own approach as to how the material can be structured and explained. Textbooks useful for background reading are listed on the course homepage under Course Description/ Literature and Web. Class notes will be downloadable in pdf format.

Exams: There is a midterm and a final written exam. The problems on the exams are closely related to the problems we do at the problem solving sessions.

Grading: Your grade is determined by homework assignments (70%) and a midterm and final exam (30%) (see next page for details). Class activity also contributes to your grade.

Syllabus: A detailed syllabus can be found on the website under Course Description/ Detailed Syllabus.

I consider the syllabus as a tentative plan that can be adjusted based on how we progress in accordance with the aim that depth of understanding is more important than quantity of material.

Game Theory Requirements and Grading Policy

Requirements

1. Homework assignments

There will be 8 ± 1 problem sets handed out during the semester. We solve most of these problems together at the problem-solving seminar, but you have to write the solutions up for submission *individually*. The problem sets will be downloadable in advance and you will need to do some preparation prior to the seminar. Credit is given for how *you show your understanding* of a solution and not to some (numeric) result being correct or not.

You can submit your homework in traditional paper or in electronic format.

You can also write up your solutions by hand and scan it in as a pdf document and submit it electronically. For electronic submissions, file name template is: LasnameFirstname_GMTP#_BSM2014F.pdf, where # is the problem set number (so the format is pdf).

2. Midterm and Final Written Exam

These are standard in-class written tests. The problems on the tests are closely related to the problems we solve at the problem-solving sessions.

Grading Policy

Your total points from the problem sets and both the midterm and final exam will be projected to a 100 scale. These two results will be added up with weights 0.7 and 0.3 respectively to produce your result for the course on a 100 scale. Grades are then assigned as follows:

$85 \leq A$

$75 \leq B < 85$

$65 \leq C < 75$

$55 \leq D < 65$

$F < 55$

If your points fall within ± 2 points of these limit points, there is fine structure with X^+ and X^- (exceptions: above 96 is A^+ and under 55 there is no F^+).