

# Game Theory

Single subject and programme course

7.5 credits

Spelteori

730A28

Valid from: 2020 Autumn semester

**Determined by**  
Course and Programme Syllabus Board  
at the Faculty of Arts and Sciences

**Date determined**  
2019-12-03

## Main field of study

Economics

## Course level

Second cycle

## Advancement level

A1N

## Course offered for

- Master programme in Economics
- Business and Economics Programme - International - French
- Business and Economics Programme
- Business and Economics Programme - International - Spanish
- Business and Economics Programme - International - German

## Entry requirements

- Economics, basic courses, 30 ECTS credits, Economics, continuation courses, 30 ECTS credits, and Economics, in-depth courses, 30 ECTS credits, with at least 60 ECTS credits approved
- English and Swedish corresponding to the level of English and Swedish in Swedish upper secondary education (Engelska 6 and Svenska 3)

## Intended learning outcomes

Upon completion of the course the student should be able to:

- describe the key concepts of and critically evaluate game theory and its methods
- critically evaluate and objectively refer to game-theoretical research
- apply game theory in the analysis of economic issues.

## Course content

The course encompasses the foundations of game theory with the focus on the analysis of various equilibrium solutions depending on the conditions and assumptions made. A large part of the course will be devoted to applications of game theory in the analysis of strategic behavior and its consequences.

The following topics will be discussed during the course:

- Games in normal and extensive forms.
- Analysis of Nash equilibrium in games with full information.
- Analysis of Mixed strategy Nash equilibrium.
- Analysis of the repeated games.
- Analysis of the equilibrium in Bayesian games with incomplete information.
- Analysis of rational and irrational behavior.

## Teaching and working methods

The course consists of a combination of lectures, tutorials and seminars. Homework and independent study are a necessary complement to the course. The language of instruction is Swedish and/or English.

## Examination

The examination consists of:

- an individually written exam, grading scale: UV
- active participation in the seminars, grading scale: UG
- hand-in problem sets, grading scale: UG

The final grade G requires G in all three examinations. The final grade VG also requires VG in the individually written exam.

Detailed information can be found in the study guide.

If the LiU coordinator for students with disabilities has granted a student the right to an adapted examination for a written examination in an examination hall, the student has the right to it. If the coordinator has instead recommended for the student an adapted examination or alternative form of examination, the examiner may grant this if the examiner assesses that it is possible, based on consideration of the course objectives.

Students failing an exam covering either the entire course or part of the course twice are entitled to have a new examiner appointed for the reexamination.

Students who have passed an examination may not retake it in order to improve their grades.

## Grades

Three-grade scale, U, G, VG

## Other information

Planning and implementation of a course must take its starting point in the wording of the syllabus. The course evaluation included in each course must therefore take up the question how well the course agrees with the syllabus.

The course is carried out in such a way that both men's and women's experience and knowledge is made visible and developed.

## Department

Institutionen för ekonomisk och industriell utveckling