

Game Theory

Spelteori
7.5 credits

Single subject and programme course

730A28

Valid from: 2024 Autumn semester

Determined by	Main field of study	
Course and Programme Syllabus Board at the Faculty of Arts and Sciences	Economics	
Date determined	Course level	Progressive specialisation
2019-12-03	Second cycle	A1N
Revised by	Disciplinary domain	
Course and Programme Syllabus Board at the Faculty of Arts and Sciences	Social sciences	
Revision date	Subject group	
2023-05-02	Economics	
Offered first time	Offered for the last time	
Autumn semester 2019		
Department	Replaced by	
Institutionen för ekonomisk och industriell utveckling		

Course offered for

- Business and Economics Programme - International - French
- Business and Economics Programme - International - Spanish
- Business and Economics Programme - International - German
- Business and Economics Programme - International - English
- Business and Economics Programme
- Master's Programme in Economics

Entry requirements

- Economics, basic courses, 30 ECTS credits
- Economics, continuation courses, 30 ECTS credits
- 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 special circumstances prevail, and if it is possible with consideration of the nature of the compulsory component, the examiner may decide to replace the compulsory component with another equivalent component.

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 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.

An examiner may also decide that an adapted examination or alternative form of examination if the examiner assessed that special circumstances prevail, and the examiner assesses that it is possible while maintaining the objectives of the course.

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 conducted in such a way that there are equal opportunities with regard to sex, transgender identity or expression, ethnicity, religion or other belief, disability, sexual orientation and age.

If special circumstances prevail, the vice-chancellor may in a special decision specify the preconditions for temporary deviations from this course syllabus, and delegate the right to take such decisions.

About teaching and examination language

The teaching language is presented in the Overview tab for each course. The examination language relates to the teaching language as follows:

- If teaching language is “Swedish”, the course as a whole could be given in Swedish, or partly, or as a whole, in English. Examination language is Swedish, but parts of the examination can be in English.
- If teaching language is “English”, the course as a whole is taught in English. Examination language is English.
- If teaching language is “Swedish/English”, the course as a whole will be taught in English if students without prior knowledge of the Swedish language participate. Examination language is Swedish or English depending on teaching language.