

Syllabus

for course at advanced level

Game Theory

Spelteori

7.5 Higher Education

Credits

7.5 ECTS credits

Course code:

EC7112

Valid from:

Autumn 2013

Date of approval:

2013-05-23

Department

Department of Economics

Subject

Economics

Specialisation:

A1F - Second cycle, has second-cycle course/s as entry requirements

Decision

This syllabus was approved by the Board of the Department of Economics on May 23, 2013.

Prerequisites and special admittance requirements

Admission to this course requires that the student is either (1) enrolled in a Master's Programme in Economics at Stockholm University, or (2) has (a) eligibility for the Master's Programme in Economics at Stockholm University, and (b) prerequisites equal to the mandatory courses that have been given prior to this course according to the current curriculum for the Master's Programme in Economics.

Course structure

| Examination code | Name | Higher Education Credits |
|------------------|-------------|--------------------------|
| 711A | Game Theory | 7.5 |

Course content

Game theory is a central and dynamic part of modern microeconomics but is also used by, for example, political scientists and biologists. This course provides an introduction to modern game theory which deals with the strategic interaction of economic agents. The course consists of two main parts; the first deals with normal and extensive form games with complete information and the second deals with games with imperfect information. In addition, the course introduces the basis of evolutionary game theory.

Throughout the course, the theory will be applied to explain the origins and functions of different economic and political economy structures. Examples of such structures are imperfect competition, auctions, collective decision making and investments in non-productive conflict technologies.

Learning outcomes

After completing the course, the student is expected to be able to:

- account for the central parts of modern game theory and explain how this method of analysis can be applied to strategic interaction among economic agents.
- solve practical problems involving strategic interaction for economic agents and provide an intuitive explanation for the methods used and the results.
- explain the origins and functions of different economic and political economy institutions using game

theory.

Education

Instruction will be in the form of lectures where time will also be devoted to reviewing solutions to pre-assigned problem sets. The language of instruction is English.

Forms of examination

There will be a written exam at the end of the course. Students are graded on basis of how well they fulfil the aims of the course. The following grades are awarded:

Passing grades include grades A, B, C, D and E, where A is the highest and E is the lowest. If students are awarded either F or FX, they fail the course (F is lower than FX).

A (Excellent): The student has a strong grasp of the central parts of modern game theory and is capable of consistent practical analysis of problems involving strategic interaction among economic agents. Using the analytical tools presented in the course, the student is capable of explaining how different economic and political economy institutions form and work and is also able to relate how different theoretical assumptions concerning the form of strategic interaction affect outcomes.

B (Very good): The student has a grasp of the central parts of modern game theory and is capable of consistent practical analysis of problems involving strategic interaction among economic agents. Using the analytical tools presented in the course, the student is capable of explaining how different economic and political economy institutions form and work and is also able to relate how different theoretical assumptions concerning the form of strategic interaction affect outcomes.

C (Good): The student has a grasp of the central parts of modern game theory and is capable of practical analysis of problems involving strategic interaction among economic agents. The student can account for how different economic and political economy institutions form and work and different theoretical assumptions concerning the form of strategic interaction.

D (Satisfactory): The student has a grasp of the elementary parts of modern game theory and is capable of practical analysis of problems involving strategic interaction among economic agents. The student has knowledge about different economic and political economy institutions and different theoretical assumptions concerning the form of strategic interaction.

E (Sufficient): The student has a grasp of the elementary parts of modern game theory and is capable of basic practical analysis of problems, involving strategic interaction among economic agents.

FX (Insufficient): The student can account for parts of modern game theory and has some ability (cannot perform a complete analysis) to solve basic practical problems involving strategic interaction among economic agents.

F (Completely insufficient): The student cannot account for the elementary parts of modern game theory and is not able to solve practical problems involving strategic interaction among economic agents.

Students who have been awarded FX or F can retake the exam.

Interim

In the event that the course is no longer offered in the course programme, the student will have three opportunities to re-take the exam in the three semesters after the course was last given.

Required reading

See course homepage available from www.ne.su.se.