FDD3250 Knowledge in Games with Imperfect Information 6.0 credits

Kunskap i spel med imperfekt information

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for FDD3250 valid from Spring 2025

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

None

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After completing the course, the student will be able to:

- model realistic situations as games with imperfect information (GIIs);
- explain the limitations of the model;
- apply the knowledge-based subset construction (KBSC) to expand GIIs;
- search for memoryless strategies in expanded MAGs;
- convert memoryless strategies in expanded GIIs to finite-memory strategies in the original GII;
- express properties of knowledge in epistemic logic

Course contents

1. Games with imperfect information
2. Objectives, strategies and strategy synthesis
3. A knowledge-based subset construction
4. Knowledge representation and update
5. Knowledge-based strategies
6. Games and epistemic logic

Examination

- EXA1 - Examination, 6.0 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

The students are graded on the basis of the homeworks and the project report.

Other requirements for final grade

None

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.

- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.