AK2014 Decision Theory 7.5 credits

Beslutsteori

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

Establishment

Course syllabus for AK2014 valid from Autumn 2007

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

The Built Environment

Specific prerequisites

General entrance requirements for university studies, i e completed upper secondary schooling incl documented proficiency in English.

Language of instruction

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

Intended learning outcomes

To provide basic knowledge about decision theoretical concepts and methods.

Course contents

In many situations we are forced to make decisions without having complete knowledge of the outcomes of our choices. The aim of this course is to provide a foundation for reflection on how rational choices can be made in such situations. We will discuss concepts such as rationality, preferences, goals, uncertainty, and utility. What does it mean to say that a preference, a goal, or a choice is rational? How should decisions be made under uncertainty and risk? What importance does the expected utility of different options have in a decision situation? This course will also serve as an introduction to game theory and social decision theory. Special weight will be attached to problems and applications that are of interest to engineers.

Course literature

- Resnik, M.D. “Choices – an introduction to decision theory”, University of Minnesota Press.
- Complementary texts to be distributed.

Examination

- DEL1 - Attendance, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- UPP1 - Essay, 3.0 credits, grading scale: A, B, C, D, E, FX, 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.

Other requirements for final grade

Attendance (DEL1; 1,5 cr)
essay (INL1; 3 cr)
written examination (TEN1; 3 cr).

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.