ID1017 Decision and Risk Analysis 7.5 credits

Besluts- och riskanalys

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

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

Establishment

Course syllabus for ID1017 valid from Spring 2010

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Language of instruction

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

Intended learning outcomes

The overall aim with the course is to give basic knowledge on applied decision theory and decision analysis, skills to structure and evaluate decision problems, and ability to analyze and judge different solutions.
After course completion, the student should be able to
- describe and handle different risk and decision theoretic concepts and models
- model and evaluate simple decision problems
- handle problems with multiple criteria
- elicit and handle model parameters

Course contents

The course treats modeling of decisions by using decision trees and influence diagrams for models having one or more criteria, the latter being called multi-criteria models. Sensitivity analyses of the models are discussed. Representation of uncertainty is done by mathematical probability models comprising 1/3 of the total course. Finally, the value of information in models is treated.

Course literature

Preliminary:

Making Hard Decisions: An Introduction to Decision Analysis, Robert T. Clemen.

Examination

- INL1 - Assignment, 3.0 credits, grading scale: P, F
- SEM1 - Seminars, 1.5 credits, grading scale: P, F
- TEN1 - Written exam, 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.

The course examination is in three parts:
Assignments
Seminars
Written exam

The grades on the written exam are A/B/C/D/E/Fx/F and on the assignments and seminars pass or fail (P/F).

The grade associated with the course is only based on the student's result on the written exam.

Students that failed on the written exam but are judged to be close to pass (grade Fx) will be given the opportunity to do an additional assignment to pass the exam (with grade E). The students that are in question for this will be informed as the result of the written exam is made public. These students then have three weeks to finish the additional assignment.

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.