Decision Models

Programme course

6 credits

Beslutsmodeller

TNSL18

Valid from: 2017 Spring semester

Determined by
Board of Studies for Industrial Engineering and Logistics

Date determined
2017-01-25

Main field of study
Logistics

Course level
First cycle

Advancement level
G2X

Course offered for
- Air Transportation and Logistics
- Civic Logistics

Entry requirements
Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites
Basics in optimization (especially network and integer programming) and logistics

Intended learning outcomes
The aim of this course is to present a number of application areas within logistics, where quantitative methods are especially suitable. After the course, the students should:

- know the principle behind the SCOR-model-building
- perform simple metric calculations using the SCOR-model
- create simple models in decision theory
- conduct an investment analysis
- implement a project planning with CPM and PERT methodology
- generate a queueing model and simulation model for simple logistics cases
- master various special cases of inventory control

Course content

The course contents include:

- The SCOR model Key factor calculations using the SCOR model Decision theory Investment analysis Project planning Queueing theory and simulation Inventory control

Teaching and working methods

The course will consist of lectures, lessons and laboratory work. The lectures will discuss the main part of the theoretical content, while the seminars will be dedicated to case works and assignments. Laboratory work will mainly consist of computer assisted exercises and assignments.

Examination

LAB1	Laboratory work	1 credits	U, G
UPG1	Case study	2 credits	U, G
TEN1	Written examination	3 credits	U, 3, 4, 5
UPG1 LAB1		0 credits	

Grades

Four-grade scale, LiU, U, 3, 4, 5

Department

Institutionen för teknik och naturvetenskap

Director of Studies or equivalent

Erik Bergfeldt

Examiner

Martin Waldemarsson

Education components

Preliminary scheduled hours: 38 h
Recommended self-study hours: 122 h

Course literature

Beslutsmodeller – redskap för ekonomisk argumentation av Edlund, Högberg och Leonardz
Beslutsmodeller i praktisk tillämpning – Övningsbok av Edlund och Högberg

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.