Logistics Analysis - Tools and Models

Programme course

6 credits

Logistikanalys - verktyg och modeller

TETS32

Valid from: 2017 Spring semester

Determined by
Board of Studies for Industrial Engineering and Logistics

Date determined
2017-01-25

Main field of study
Industrial Engineering and Management, Logistics

Course level
Second cycle

Advancement level
A1X

Course offered for
- Energy-Environment-Management
- Industrial Engineering and Management - International, M Sc in Engineering
- Industrial Engineering and Management, M Sc in Engineering
- Mechanical Engineering, M Sc in Engineering

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
Basic Logistics. Supply Chain Logistics is recommended.

Intended learning outcomes
The course deals with a number of tools and models for analysis of logistical systems. In the course, the tools and models will be used in specific logistics contexts. The purpose, however, is that the students should get a deeper understanding for how to apply these tools/models in different decision situations, and thereby require a general ability to make good logistics analyses. After having completed the course the student shall:

1. Be able to use some tools and models for the purpose of logistical analyses
2. Be well aware of the principles and basic assumptions behind the tools and models that are dealt with in the course
3. Be well aware of different ways to acquire the data required for the tools and models
4. Be able to apply and adjust these tools and models in a correct manner in a different context than those exemplified in the course
5. Be able to critically analyse the reliability in the results from the tools and models with respect to cost, time and service

Course content

The course deals with a number of logistics related tools and models, such as the Total Cost Model and Activity Based Costing. During the course the tools and models are applied in different logistics areas, internally in a company as well as in the interface between companies. Besides from using them, special attention is given to the analysis of how logistics related figures connected to cost, time and service are used in these tools and models.

Different types of sensitivity analyses are dealt with in the course in order to better judge the reliability in the results that the discussed tools and models give. Furthermore Excel is used for building up models and handling of large amounts of data.

Teaching and working methods

- Lectures, both from academy and the private sector.
- Exercises, where the student applies issues presented in literature and during lectures.

Examination

UPG1	Assignments	3 credits	U, G
KTR1	Test	3 credits	U, G

The final mark is decided by the total points aquired from the assignments and the written test. (U,3,4,5)

Grades

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

Other information

Supplementary courses:
Logistics Project, Logistics Strategy

Department

Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent

Björn Oskarsson

Examiner

Erik Sandberg

Course website and other links

http://www.iei.liu.se/logistik/tets32

Education components

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

Course literature

Oskarsson et al. (2013) "Modern Logistik", 4e uppl, Liber, Relevanta artiklar (meddelas på kursens hemsida i samband med kursstart)

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.