Sustainable Logistics Systems

Programme course

6 credits

Hållbara logistiksystem

TETS36

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

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 course in logistics

Intended learning outcomes

The general aim of the course is that the student should acquire knowledge about the role logistics plays for a sustainable development, environmentally, socially as well as economically. The course's focus lies on how environmental demands affect logistical systems, and the possibility to use logistics to positively affect the environment. After taking the course, the student should

- be able to reflect and argue about the important role logistics has for a sustainable development.
- have gained an increased insight in how increased environmental and sustainability demands may affect the future design of logistical systems.
- in a well motivated manner be able to estimate and calculate a logistical system's environmental effects, and to some extent also the social effects.
- have knowledge about different actions for reducing the logistical system's environmental effects, and motivate and argue for the suitability of different actions in certain situations.
- be acquainted with knowledge and tools for integration of environmental aspects (and to some extent also social aspects) when designing a logistical system.
- be able to describe central theories and frameworks within the field, critically analyse these and apply them in a way suited to the situation.
- be able to design economically profitable action plans for a sustainable adaptation of logistical systems.
- from a sustainability perspective be able to analyse logistical proposals and solutions; identify strengths, weaknesses and unclarities in them; and propose alternative solutions.

Course content

An understanding for the state of the art is created by describing logistical trends, statistics etc from the transportation field, and show how the volatile society affects the logistics system and its sustainability. Different methods for changing the effects from transports and logistics are gone through, both concerning current needs for transportation, and by reducing the transport work with help from logistical solutions. Possibilities and problems connected to calculation of transports' environmental effects are treated.

Teaching and working methods

On lectures, different areas are being introduced and penetrated. Case and theoretical assignments are performed individually or in groups, presented in written or oral form, as well as discussed at seminars. Critical review of each other's reports and presentations.

Examination

UPG2	Optional Project Assignment	0 credits	U, 3, 4, 5
UPG1	Case Study	4 credits	U, G
KTR1	Written Test	2 credits	U, G

Grades

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

Other information

Supplementary courses:
Advanced courses within Logistics, such as Logistics Project and Logistics Strategies, and within Environmental management

Department

Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent

Björn Oskarsson

Examiner

Maria Björklund

Course website and other links

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

Education components

Preliminary scheduled hours: 40 h
Recommended self-study hours: 120 h

Course literature

Björklund (2012), Hållbara logistiksystem, Studentlitteratur. Relevanta forskningsartiklar och rapporter.

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.