Transport and Logistics Systems

Programme course

6 credits

Transport- och logistiksystem

TNK112

Valid from: 2017 Spring semester

Determined by
Board of Studies for Industrial Engineering and Logistics

Date determined
2017-01-25

Main field of study
Transportation Systems Engineering

Course level
Second cycle

Advancement level
A1X

Course offered for
- Intelligent Transport Systems and Logistics, Master's Programme

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
Admission requirements for master level studies within Transportation Systems Engineering

Intended learning outcomes
The aim of the course is to give knowledge about transport and logistics systems and to introduce the field of Intelligent Transport Systems (ITS).

After the course the students should

- understand basic definitions, approaches and models used in road traffic planning and for planning and operation of logistics systems
- be able to analyse logistics systems using logistic tools, with focus on the impact on financial performance of a single company
- understand the traffic planning process using modeling tools
- explain how information technology and telecommunication can help satisfying goals in terms of efficiency, safety, customer satisfaction and environmental impact
- analyse and discuss some ITS-application related to a traffic system or a logistic system

Course content
Traffic systems, traffic planning and control, the 4-stage model, basic traffic flow. Logistics systems and activities, logistics performance in terms of impact on profitability (return on investment), total cost, and customer service. Application areas of intelligent transport systems such as systems for traveller information, traffic management, electronic payment and toll collection, advanced driver assistance and collision avoidance, freight and commercial vehicle operations.

Teaching and working methods
Lectures, seminars and assignments.

Examination

UPG5	Hand-in assignments	2 credits	U, 3, 4, 5
UPG4	Hand-in assignments	2 credits	U, 3, 4, 5
UPG3	Hand-in assignments	2 credits	U, 3, 4, 5

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

Department
Institutionen för teknik och naturvetenskap

Director of Studies or equivalent
Erik Bergfeldt

Examiner
Jan Lundgren

Education components
Preliminary scheduled hours: 24 h
Recommended self-study hours: 136 h

Course literature
Utdelat material

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.