

Traffic Infrastructure

Programme course

6 credits

Trafikens infrastruktur

TNK061

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

First cycle

Advancement level

G2X

Course offered for

- Communication and Transportation 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

Transport Systems, Transport Economics

Intended learning outcomes

The course aims at presenting basic knowledge on the infrastructure of the traffic system, its constitution and functionalities, and about planning of infrastructure. The course is focused on road traffic and transportation of persons. After the course a student shall

- have knowledge on the conditions and methods used for planning of private car traffic, public transport and pedestrian and bicycle traffic.
- have knowledge of basic definitions and approaches used in road traffic planning.
- be able to evaluate a spatial plan based on given planning requirements and forecasts.
- be able to describe characteristics, functionalities and limitations of the major types

- of models used for traffic planning.
- be able to use a commercial planning software for performing traffic analyses.
- use the achieved knowledge along with principles for a cost—benefit calculation to make an overall evaluation of a traffic infrastructure project.

Course content

Brief introduction to urban planning and traffic planning. Civil engineering planning issues. Planning of public transports and pedestrian and bicycle traffic. Planning of road traffic. Evaluation of traffic systems. Introduction to planning methods and software. The four step model for traffic forecasts.

Teaching and working methods

The course contains a number of lectures, some of which might be given by external guests. A project, consisting of three tasks, is an essential part of the course, which partly are to be solved by use of a commercial software tool.

The course is given during both study periods of the spring semester.

Examination

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

Course grade is given as a weighted sum of the examination assignments.

Grades

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

Other information

Supplementary courses:

Planning of public transport and railway traffic, Planning and simulation of traffic systems

Department

Institutionen för teknik och naturvetenskap

Director of Studies or equivalent

Erik Bergfeldt

Examiner

Anders Peterson

Education components

Preliminary scheduled hours: 30 h

Recommended self-study hours: 130 h

Course literature

Hydén, C. (red.) Trafiken i den hållbara staden, Studentlitteratur, senaste upplagan.
Kompletterande material publiceras på Kursplatsen.

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.