Public transportation and rail traffic

Kollektivtrafik och spårbunden trafik
6 credits

Programme course

TNK125

Valid from: 2024 Spring semester

Determined by	Main field of study	
Board of Studies for Industrial Engineering and Logistics	Logistics, Transportation Systems Engineering	
Date determined	**Course level**	**Progressive specialisation**
2023-08-31	First cycle	G2X
Revised by	**Disciplinary domain**	
	Technology	
Revision date	**Subject group**	
	Other Subjects within Transportation	
Offered first time	**Offered for the last time**	
Autumn semester 2023		
Department	**Replaced by**	
Institutionen för teknik och naturvetenskap		

Course offered for

- Master of Science in Communications, Transport and Infrastructure
- Bachelor's Programme in Air Transportation and Logistics
- Bachelor's Programme in Civic Logistics

Prerequisites

Geographic information systems, basic knowledge of traffic planning

Intended learning outcomes

The course aims to provide basic knowledge of public transport systems and rail transport. The focus is on tactical planning of public transport.

After the course a student should be able to

1. describe key actors, planning processes and trends in public transport in Sweden
2. compare different public transport solutions with regard to their characteristics, advantages and disadvantages
3. understand common problems in tactical planning of public transport and rail transport and the characteristics and limitations of the methods and tools used to solve these problems
4. analyse and solve a given problem in tactical planning of public transport

Course content

- Public transport in Sweden: the role of public transport in the transport system, actors in public transport and rail, public transport law, transport supply programmes, economics, procurement
- Current trends: electrification, automation, digitalisation, mobility services, free public transport, national ticketing system, etc.
- Public transport solutions: general and specific public transport, road and rail modes, infrastructure and vehicles, demand-responsive public transport, traffic management, punctuality, traffic information, fare and payment systems
- Tactical planning: route network, frequency, vehicle planning, timetables, interchanges, capacity, traffic modelling of mode and route choices

Teaching and working methods

Teaching is mainly given in the form of lectures with guest lecturers and seminars. An important element of the course is a major project.

Examination

UPG1	Hand-in assignments	2 credits	U, 3, 4, 5
UPG2	Project	4 credits	U, 3, 4, 5

The course grade is calculated as the weighted average of the two examination components.

Grades for examination modules are decided in accordance with the assessment criteria presented at the start of the course.

Grades

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

Other information

About teaching and examination language

The teaching language is presented in the Overview tab for each course. The examination language relates to the teaching language as follows:

- If teaching language is "Swedish", the course as a whole could be given in Swedish, or partly in English. Examination language is Swedish, but parts of the examination can be in English.
- If teaching language is "English", the course as a whole is taught in English. Examination language is English.
- If teaching language is "Swedish/English", the course as a whole will be taught in English if students without prior knowledge of the Swedish language participate. Examination language is Swedish or English depending on teaching language.

Other

The course is conducted in such a way that there are equal opportunities with regard to sex, transgender identity or expression, ethnicity, religion or other belief, disability, sexual orientation and age.

The planning and implementation of a course should correspond to the course syllabus. The course evaluation should therefore be conducted with the course syllabus as a starting point.

The course is campus-based at the location specified for the course, unless otherwise stated under "Teaching and working methods". Please note, in a campus-based course occasional remote sessions could be included.