AH2026 Railway Traffic - Market and Planning, Basic Course 7.5 credits

Tågtrafik - marknad och planering, grundkurs

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for AH2026 valid from Autumn 2014

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Specific prerequisites

For admitted students to the Master of Science in Civil Engineering and Urban Management (CSAMH) or the Master of Science in Transport and Geoinformation Technology (TTGTM), there are no additional requirements.

For other students:

- At least 120 university credits (hp) in engineering or economics.

- English language proficiency equivalent to (the Swedish upper secondary school) English course B/6.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

The aim of this course is to give basic knowledge of train traffic and its market, infrastructure, economy and planning.

After this course the student should be able to explain:

- the competition and cooperation with other transport modes on the market.
- the process of planning and building of a new railway.
- how to build a timetable for the railway and the process behind it.
- different signaling systems and train operation on a railway.
- the capacity of a railway and different possibilities to analyse it.
- and make an economical analyse of passenger and freight transport on the railway.
- about demand and market requirements of transports.

Course contents

- The market of train traffic. An overview over travel and transport in Europe and how the development will be in the future.
- Deregulation, restructuring and new operators of the railway. Cooperation between the different transport companies and interoperability in Europe.
- Railway and environment. The advantages and disadvantages compared with other types of transport concerning for example environment and health effects.
- Infrastructure. How to plan and build the railway. Social-economic analyses and environmental impact analyses.
- How the signalling systems work, how to create timetables for the trains. Train operation, capacity analysis and simulation of train traffic.
- Traffic systems for passenger travel in a general perspective. What should the operator think of when choosing strategies for traffic, vehicles and stations ?
- Long term passenger traffic planning. Demand and valuations of the traveller. Investigation methods to know what the market requirements including prediction models. Some successful examples of passenger transport projects.
- Freight traffic. The demand and supply of the Freight transport customer. Traffic systems and vehicles for freight transport.
- Analyses of freight transports and comparison between road and rail transports.

- A vision for future transports. The railway system of yesterday, today and in the future.

Disposition

The course is carried out with twelve days of lectures by the basic knowledge needed to understand the area of railway and railway operation. This is supplemented with exercises, project tasks data, and study visits to provide applications on the subject. See course schedule for dates and times of lectures and examination.

Course literature

Kurskompendium

Examination

- ÖVN1 - Project, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

Written examination (TEN1; 3 credits) and exercise (ÖVN1; 4,5 credits).

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.