



# AH2028 Railway Traffic - Market and Planning, Advanced Course

## 7.5 credits

Tågtrafik - marknad och planering, fortsättningskurs

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

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

### Establishment

Course syllabus for AH2028 valid from Spring 2022

### Grading scale

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

### Education cycle

Second cycle

### Main field of study

### Specific prerequisites

At least 120 credit academic studies and documented proficiency in Swedish B and English A or equivalent.

### Special prerequisites:

AH2026 "Railway Traffic - Market and Planning, BC" or equivalent experience.

## 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 more and deeper knowledge in selected parts of a railway system and the train traffic and transports on it. After the course the student will be able to describe some parts and have knowledge of the total project. By choice of projects the student can specialize in for example traffic operation, capacity analyses, forecasting, economy, environmental impacts or infrastructure design.

## Course contents

- The decision process when building a new railway with the different parts; concept study, prestudy, investigation of railway and planning of railway. To understand the process from demand to the final railway.
- Train traffic simulation by study of future train traffic on a new railway line with different traffic patterns and delays how this affects the capacity.
- Economical analysis of different traffic patterns in passenger and/or freight traffic on a future railway and to see if different combinations of trains and timetables can be profitable.
- Investigation of passengers valuation of their journey, service and comfort on the train. This can be done by stated-preference studies onboard the train.
- Analyses of efficient local and regional train traffic by studying different combinations of trains with different combinations of stop pattern.
- Design of signalling systems on a shorter railway track with some stations inclusive capacity analyses.
- Forecasting models for passenger and freight transport. Comparison between different model systems and demand for data and accuracy.
- Study of litteratur and current research in a topic of own choice. To give actual knowledge of where the limit of research or technology in an railway-related area is today.

## Examination

- PRO1 - Project, 7.5 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.

The grade A is given with four well-passed in the fulfillment of the learning objectives, B with three well-passed, C with two well-passed, D with one well-passed and E with only passed. In the event that fewer than four learning objectives are met, the grade F is given.

## Other requirements for final grade

Project work (PROJ1, 7.5 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.