



# AH2036 Railway Planning and Operations 7.5 credits

## Tågtrafikplanering

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

### Establishment

The official course syllabus is valid from the fall semester 2024.

### Grading scale

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

### Education cycle

Second cycle

### Main field of study

The Built Environment

### Specific prerequisites

- Degree of Bachelor or 180 credits, including at least 60 credits in mathematics, physics, statistics or computer science
- English B/6

### Language of instruction

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

# Intended learning outcomes

The course is intended to give the students general knowledge about the railway system and the train traffic and its planning in both strategic and tactical and operational time horizons.

Upon completion of the course, the student should be able to:

- Understand the structure and function of the railway system
- Be able to design a schedule and analyse capacity utilization and robustness
- Have knowledge of the different preconditions of passenger traffic or freight and be able to include demand and economic analysis in planning of traffic systems

# Course contents

The course includes strategic, tactical and operational planning in the following five fields:

The railway system

- Infrastructure planning and the national transport plan
- The structure of the infrastructure and maintenance of railway
- The environmental impact of the railway
- Risk Management and accident risks

Passenger traffic

- Vehicles for passenger traffic
- Supply and demand in passenger traffic
- Cycle planning of vehicles

Freight

- Vehicles for freight
- Supply and demand in freight traffic
- Train formation and marshalling

Capacity and punctuality

- Capacity assignment and capacity calculations
- Timetable planning
- Punctuality and disturbances

Traffic control

- Signal and safety systems
- Traffic management

# Examination

- **TEN1** - Written exam, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- **ÖVN1** - Exercises, 1.5 credits, grading scale: P, F
- **PRO1** - Project assignment, 1.5 credits, grading scale: P, 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**

For final grade, attendance at compulsory course elements is required

## **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.