



AH2173 Public Transport 7.5 credits

Planering och analys av kollektivtrafiksystem

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 AH2173 valid from Spring 2013

Grading scale

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

Education cycle

Second cycle

Main field of study

Built Environment

Specific prerequisites

Bachelor's degree in engineering, science, economics, planning or a similar degree, with at least 60 cr (ECTS) in mathematics, physics, statistics and/or computer science, as defined in the admission requirements for the Master's programme in Transport Systems. Together with documented proficiency in English corresponding to English B.

Language of instruction

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

Intended learning outcomes

- Understand the four step transport planning process
- Discuss the primary stakeholders and factors influencing public transport development
- Understand and compare alternative organizational structures in the public transport sector
- Compare alternative public transport service patterns and network structures
- Calculate and interpret measures of service and network performance
- Express mode choice and route choice as a discrete choice model
- Apply methods for frequency determination, timetable design and vehicle scheduling
- Identify the sources of service uncertainty and their impact on service performance

Course contents

- Introduction to public transport systems: history, current state and trends
- Strategic planning
- Network design
- Public transport sector organization
- Service quality assessment
- Public transport performance, analysis and modeling
- Operations planning
- Service reliability and control
- Data collection methods and advanced public transport systems

Disposition

The course consists of lectures and tutorials with student participation, a study visit, one exercise and a project. The project involves the analysis and evaluation of alternative network designs and their implications on operations. The project covers all the major steps that have to be undertaken including data analysis, documentation and conclusions in the form of a report and a presentation and discussion

Course literature

- Ceder (2007). Public Transit Planning and Operations – Theory, Modeling and Practice.
- Vuchic (2005). Urban Transit – Operations, Planning and Economics.

- Vuchic (2007). Urban Transit - Systems and Technology.
- A selection of research articles.

Examination

- PRO1 - Project, 4.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.5 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.

- PRO1 - Project, 3.5 credits, grade scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 4.0 credits, grade scale: A, B, C, D, E, FX, F

Other requirements for final grade

Written examination (4,0 cr) and exercises and projects (3,5 cr)

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.