# AH2173 Public Transport 7.5 credits

## Planering och analys av kollektivtrafiksystem

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

## Establishment

Course syllabus for AH2173 valid from Spring 2015

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

The Built Environment

## 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:

- A completed bachelor's degree in civil engineering, urban planning, geomatics, geography, engineering physics, computer science, statistics, economics, and/or mathematics, with at least 60 university credits (hp) in mathematics, physics, statistics and/or computer science; and

- 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

- 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.

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

- 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.