



AH1030 Urban Development and Transport System 7.5 credits

Stadsutveckling och transportsystem

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 AH1030 valid from Spring 2017

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

AI1527 civil engineering process, AI1126 civil engineering economics, natural resource theory, civil engineering control system, Project Management and BIM.

Language of instruction

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

Intended learning outcomes

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

• Describe and analyse the role of traffic for different social functions and the relationship between transport, localization and city development.

• Describe how different social actors interact within the frame of law-related planning processes and contribute to the development of the design and transport system of the city.

• Analyse measures within civil engineering based on the different needs of the society and compare alternative solutions for implementation regarding design and localisation

• Propose a city development project that contributes to sustainable transports and cities based on prevailing local and regional preconditions

• Assess social, economic and environmental consequences of a plan proposal and discuss these in relation to, amongst others, availability, safety, attractivity and sustainability.

Course contents

The society, cities and the traffic system are developed based on different preconditions and needs. This development is directly or indirectly governed by decisions from different public authorities and other social actors. To ensure a long-term sustainable civil engineering, a coordinated planning of the traffic system, dwellings, green areas, service and trade etc is needed that is based on the local conditions and the relation to nearby areas and the region.

The course should give a basic understanding of how the city and the transport system are connected to climate changes and the economic preconditions at the local, regional and global level and how today's urban and traffic planning can contribute to sustainable civil engineering on the short and long term.

The following components will be included in the course:

1. The city as a system. Different functions in the city (housing, work, service, transport systems). The relation between different functions and the traffic flows they generate. Differences between cities and city parts.
2. Regional perspective on urban and traffic planning. Preconditions for the future development of the rural area. The post-industrial society. The role of traffic infrastructure in the region. The connection to transport political objectives. Network, localisation and regional cooperation.
3. The development of the traffic: How had the individual and the freight been developed through the history? Planning preconditions for car, public transport, bicycle and walking. How different means of transport differ from a traffic planning perspective regarding for

instance capacity, and design of mobility and availability for road users with special needs, and traffic safety. Driving forces that influence the development.

4. The formal and informal planning process of the city. Governance, policy instruments, negotiation and PBL. Actor perspective. Cooperation within city and traffic planning. Path from planning to project management. Examples of different projects, large and small.

5. Transport political aims and the planning process. Choice of different transport solutions and the planning process for an infrastructure project.

6. Visions about the city. Challenges and ideas about the future development of the city. Sustainable city development and sustainable transport systems. Segregation and gentrification. Regional development cores.

7. Planning in practice. Ideal and principles that govern traffic planning. To develop a scientific foundation. Tools, cooperation, citizen participation.

The course treats the development of the city and the traffic system based on local and regional preconditions, and consists of:

Group assignment (PRO1; 3.5 credits) where students work in groups on a region in Stockholm and examine which problems and needs there are. Certain regions lie in the city, other a little outside the city and further in the outer districts, which have different development opportunities regarding housing, traffic supply etc. The groups make an analysis of the preconditions and propose a plan.

Individual submission (INL 1; 1.0 credits) where each student makes a general impact assessment of the plan of the group

Examination (TEN1; 3.0 credits) where lectures and reading list are examined.

Course literature

Are decided in connection with the start of the course

Examination

- INL1 - Individual Assignment, 1.0 credits, grading scale: A, B, C, D, E, FX, F
- PRO1 - Group Assignment, 3.5 credits, grading scale: P, 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.

PRO1. Group assignment 3.5 credits

INL1. Individual submission 1.0 credits

TEN1. Examination 3.0 credits. With grading scale A-F.

Other requirements for final grade

Approved examination (TEN1; 3 credits) and group assignment (PRO1; 3.5 credits), written assignment (INL1; 1.0 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.