



AG2804 Transport, Communication and Sustainable Development 7.5 credits

Transporter, kommunikationer och hållbar utveckling

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 AG2804 valid from Spring 2024

Grading scale

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

Education cycle

Second cycle

Main field of study

Built Environment

Specific prerequisites

180 university credits (hp) including 30 university credits in the field of urban, transport or regional planning, or environmental sciences and 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

After the course you should be able to:

- account for sustainability concepts and indicators, discuss visions of sustainable transport and compare with properties of present transport systems.
- describe alternative energy futures and their relations to climate change and explain the role of transport systems in different scenarios.
- discuss the potential for technological development in transport and infrastructure systems in relation to different energy scenarios.
- describe how scenarios and backcasting can be used to analyse sustainable transport systems
- apply scenarios and forecasting for analysis of sustainable transport options
- analyse relationships between urban development and mobility patterns and their implications for sustainability
- account for how mobility and communication patterns are analyzed and explained within the social sciences, i.e. human geography, psychology, sociology and anthropology.
- select and synthesise policies and strategies for approaching sustainable transport.

Course contents

- Sustainability concepts and indicators. Visions of sustainable transport systems and assessment of the present situation.
- Energy futures and climate change – the role of the transport system.
- The potential for technological development in transport and infrastructure systems in relation to various energy futures.
- Scenarios and backcasting as tools for analysing sustainable transport.
- Scenarios and forecasting as tools for analysing sustainable transport.
- Sustainable urban development and mobility.

Overview of important methods and results concerning mobility and sustainability within the social sciences, for instance regarding individual travel habits and social patterns of mobility and electronic communication

- Strategies and policies for approaching sustainable transport

The content of the course is presented in lectures on methodology and applications. Further training on concrete examples is provided in tutorials in the form of case studies, exercises or study visits. In a project assignment, the student will analyse the sustainability impacts of a plan, a policy or a project in a transport context. The resulting analysis should be summarised in a report to be presented and discussed in a seminar.

Examination

- INLA - Assignment, 3.5 credits, grading scale: A, B, C, D, E, FX, F
- PROA - Project, 4.0 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.

Other requirements for final grade

Written exam and project assignment

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.