



AH2106 Advanced analytics in logistics and transportation 7.5 credits

Avancerade analysmetoder inom logistik och transport

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

Establishment

The official course syllabus is valid from the autumn semester 2026 as decided by the Faculty Board decision SA-2024-1950. Date of decision: 2025-06-12

Grading scale

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

Education cycle

Second cycle

Main field of study

The Built Environment

Specific prerequisites

- Bachelor's degree or 180 credits, including at least 60 credits in mathematics, physics, statistics or computer science
- English B/6
- Knowledge equivalent to AH2102 Logistics & transport or ME2053 Logistic & Supply Chain Management.

Intended learning outcomes

The course's objective is to provide practical knowledge of advanced analysis methods such as simulation, optimization, prediction, AI and data analysis, which are used to improve the efficiency of the supply chain.

After passing the course, the student should be able to:

- Understand basic concepts in system dynamics applied to supply chains
- Model and analyze how decisions about changed flows affect the stability and efficiency of the supply chain.
- Model supply chains in multiple stages and networks
- Design a supply chain related to the character of a particular market
- Apply methods and tools to analyze problems related to logistics and the planning, construction and operation of supply chains.
- Critically and independently identify and formulate societal issues in transport logistics, which include economic, ecological and social sustainability

Course contents

The course teaches basic models and advanced analysis methods in freight transport planning related to purchasing, production and distribution. The course covers both conceptual level and detailed analysis of supply chains. Teaching is carried out through lectures, advanced analysis methods in a computer environment (laboratory), assignments and project work.

The course deals with decision models for designing supply chains at a detailed level through advanced analysis methods. During laboratory sessions, the design and character of supply chains are analyzed, regarding warehouses, production and delivery processes. Students will become familiar with and use data sources for freight transport.

Examination

- PRO1 - Project, 7.5 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.

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.