AH2102 Logistics and Transportation 7.5 credits

Logistik och transport

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

Establishment

Course syllabus for AH2102 valid from Autumn 2019

Grading scale

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

Education cycle

Second cycle

Main field of study

The Built Environment, Industrial Management

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:

- At least 180 credit academic studies in Engineering, Science, Economics or Planning.
- 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

By completion of this course, the students will be able to:
• Demonstrate understanding of fundamental concepts, issues and challenges within logistics and transportation.
• Define and explain the main cost components in logistics and transportation.
• Apply methods and tools for solving problems related to logistics and supply chain planning, design and operations.
• Discuss problems related to logistics and transportation.
• Identify and evaluate alternative transportation options.

Course contents

Logistics is applied in a wide range of areas and industries such as humanitarian, urban, military and commercial purposes. All companies managing goods have to manage logistics and their role in a supply chain. The main functions in a company that are commonly incorporated in logistics and supply chain concepts are purchasing, inventory management and transportation.
The course deals with the fundamental concepts, approaches, and techniques within the design and operation of logistics systems and integrated supply chains. The design and management of supply chains is an important element of strategy and creation of competitive advantage. An effective supply chain must be configured to deliver customer value while also maintaining crucial cost advantages. Companies utilize new tools for modelling the full supply chain to integrate the firm's logistics and operations.
The course introduces the basic concepts in supply chains, including the role of different transportation modes and technologies, inventory management, environmental aspects of logistics and the impact of IT. Emphasis is placed on the use of fundamental principles, models, and case studies to illustrate the underlying concepts. The course is project based, which enables students to apply logistical tools and methods into real life situations and to connect the acquired theoretical knowledge with practical experience.

The main topics to be covered include:
• Introduction of fundamental concepts of logistics and transportation in supply chain management.
• The four classic traffic modes for transportation of freight
• Inventory management
• Role of IT in Logistics
• Basic transportation terminology
• Unit loads and intermodal transportation
• Storage and terminals
• Transport networks
• Actor structure
• Transport policy

• Environmental aspects of logistics and transportation
• Humanitarian logistics

Course literature

• Rushton, A., Croucher, P. and Baker, P. (2017), The handbook of logistics & distribution management - Understanding the Supply Chain (6th edition), Kogan Page, London

Examination

• ÖVN1 - Exercise, 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.

Other requirements for final grade

Written and oral presentation of the assignments .

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.