



# AH2111 Logistics, Advanced Project Course 15.0 credits

Logistik, fördjupningskurs med projekt

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 AH2111 valid from Autumn 2007

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

## Specific prerequisites

AH2102- Logistics and transport, or knowledge in Supply Chain Management at advanced level or similar

## Language of instruction

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

## Intended learning outcomes

The course is intended to give the students the knowledge of contemporary methods used in reengineering and performance improvement of supply chains with aid of simulation techniques. The program teaches the basic decision models recognised by the operation management discipline. Both conceptual as well as detail design levels are covered

Decision models at conceptual level are formulated as system dynamics problems (time continuous simulation) with help of generic organs and patterns. After the course the student will be able to understand underlying concepts in system dynamics applied to studying supply chains, make models of causal relationships and explain reasons of particular observed behaviours.

In particular the student will be capable of:

- Model and analyse how different policies /decision alternatives affect grow, robustness, stability, performance and profitability of supply chains
- Model and analyse multi-tier 'supply-make-deliver' chains
- Make a conceptual design of a supply chain to specification of a given market characteristics

## Course contents

Decision models at detailed design level are treated in this course with discreet event simulation. The student will be taught how to effectively trim existing supply chains, and after the course he/she will be able to:

- Build discreet event simulation models of inventories, production systems and delivery processes.
- Collect data from company-wide databases
- Conduct planned experiments to find up relationships between process parameters
- Conduct supply chain improvements projects with aid of discreet event simulation

## Course literature

John Sterman, Business Dynamics: Systems Thinking and Modeling for a Complex World, McGraw-Hill/Irwin, 2000

Compendium in discrete event simulation. Lecture notes.

## Examination

- ÖVN1 - Exercise, 15.0 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

Approved laboratories and seminars

Written report, which is also orally presented

## 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.