



# ME2154 Supply Chain Risk Management 7.5 credits

Riskhantering i försörjningskedjor

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

## Establishment

On 11/04/2019, the Dean of the ITM school has decided to establish this official course syllabus to apply from spring term 2020 (registration number M-2019-0752).

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

Industrial Management

## Specific prerequisites

Satisfies the requirements for a Degree of Bachelor of Science

ME2053 Logistics and Supply Chain Management completed.

Documented knowledge in English B or the equivalent.

## Language of instruction

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

## Intended learning outcomes

After completing the course with a passing grade the student should be able to:

1. apply mathematical models to analyse risks in supply chains
2. apply, analyse and evaluate result from risk estimation methods in a game based case study about supply chains for postal services
3. analyse a case study of a supply chain and understand the importance of risk management thereby
4. draw own conclusions about private-public partnerships, sustainability and ethics in supply chains for postal services
5. describe and explain risks in management and control of supply chains and how contextual factors can increase the probability for or the consequences of a disrupting event
6. explain the consequences of risk management upstream in a supply chain, particularly with regard to the risks that must be handled by an OEM that has suppliers in several stages where the insight/visibility is limited
7. summarise and explain the consequences of incentive systems to balance a company's risks and result
8. explain and apply basic models and theory of international trade in a case study
9. explain the importance of the visibility/transparency of supply chains at risk management
10. suggest and argue for different risk management strategies to decrease the risks while the material flow is optimised in an international supply chain
11. draw own conclusions about private-public partnerships, sustainability and ethics in international supply chains

## Course contents

The course covers the following fields:

- Risk analysis, risk management and safety in supply chains.
- Short summary of concepts and models in statistics and probability theory.
- Error models in supply chains.
- Qualitative and quantitative risk management tools.
- Discrete event simulation and agent based modelling.
- Use of simulation tools, mathematical tools and risk management tools in supply chains.
- Risk based criteria for selection of suppliers and outsourcing decisions.
- International trade and "compliance management".
- Use of risk management tools in postal services networks and international trade.
- Digital ecosystems for risk management, robustness and automation.

## Examination

- LAB1 - Laboration, 1.0 credits, grading scale: P, F
- INL1 - Simulation, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- SEM1 - Seminar, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- SEM2 - Seminar, 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.

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.