



HN2022 System Safety and Risk Management 7.5 credits

Systemssäkerhet och riskhantering

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 HN2022 valid from Autumn 2018

Grading scale

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

Education cycle

Second cycle

Main field of study

Technology and Health

Specific prerequisites

180 university credits (hp) in engineering or natural sciences, and documented proficiency in English corresponding to English B/English 6.

Language of instruction

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

Intended learning outcomes

The objective of the course is that students will reach an advanced understanding of system safety and risk management based upon system theory applied to safety and socio-technical systems.

After the course the student should have learned to:

- Describe and explain the system perspective on human, technological and organizational aspects of the concept MTO.
- Argue for and identify risks in socio-technical systems (MTO), both risk that contribute to the system safety failure as well as workplace accidents and events.
- Describe risk management from an organizational perspective like safety management systems.
- Analyse identified weaknesses in risk management processes and suggest improvements.
- Analyse identified weaknesses in safety in a work place in and suggest actions for mitigating risk and improvements.

Course contents

Theory and models of systems, safety, human-machine systems, human factors, risk and system analysis.

Riskmanagement including methods and tools for analysis, assessment and evaluation.

System analysis for risk management processes in an organisation.

Applying methods and tools for risk management in a work place case.

Discussion and recommendations for mitigation and implementation of change of these.

Occupational health and safety assessment series (OSAHS)

Work law and prescriptions.

Course literature

Risks in technological systems: Grimvall, Jacobsson och Thedéen (2005) Studentlitteratur

Work and technology on human terms: Bohgard m.fl. (2009) PREVENT

Guide to safety analysis for accident prevention - IRS Riskhantering, PDF

Scientific articles and hand-outs will be added during course.

Examination

- INL1 - Hand-ins, 1.5 credits, grading scale: P, F
- PRO1 - Project, 2.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 1.5 credits, grading scale: P, F
- ÖVN1 - Exercises, 2.0 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.

PRO1 - Project, 2.5, grade scale: A, B, C, D, E, FX, F

ÖVN1 - Exercises, 2, grade scale: A, B, C, D, E, FX, F

INL1 – Assignments, 1.5, grade scale P/ F

TEN1 – Examination, 1.5, grade scale P/F

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.