



HN2013 Ergonomics, Human Factors and Patient Safety 6.0 credits

Ergonomi, MTO och patientsäkerhet

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 HN2013 valid from Autumn 2011

Grading scale

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

Education cycle

Second cycle

Main field of study

Technology and Health

Specific prerequisites

120 university credits (hp) In engineering or natural sciences and documented proficiency in English corresponding to English B.

Language of instruction

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

Intended learning outcomes

By the end of the course each student will be able to:

- describe human capacities, mental and physical, that play a part in interaction with the work system in healthcare settings

- identify methods for applying this knowledge in the design, development and evaluation of medical technology

- describe the main principles of system safety and the factors that contribute to unsafe acts and possible patient injury

- explain how organisational issues and the work environment affects patient safety

- define how medical technology affects the work environment and patient safety

- give examples of how medical technology engineers can contribute to improving the working environment and patient safety in healthcare

Course contents

Background, development and relationship between ergonomics, human factors and patient safety

Humans cognitive and physical capacities, as individuals and in work

The systems view and sociotechnical systems

Risks in healthcare and the consequences of patient injury

Methods and tools for analysis, design and evaluation of work, work environment and products

Human factors and ergonomics concepts and terminology

Methods for risk analysis from av systems perspective

Patient safety concepts and terminology

Measures for increased safety in healthcare systems

Course literature

Dekker, S., (2011). Patient Safety: A Human Factors Approach., Fla : CRC Press. Boca Raton, ISBN 9781439852255

Helander, M., (2006). A Guide to Human Factors and Ergonomics., Fla : CRC Press. Boca Raton, ISBN 9780415282482

Tillkommer cirka 200 s. artiklar enligt anvisning och utdelat material

Examination

- INL1 - Assignments, 2.0 credits, grading scale: P, F
- SEM1 - Seminars, 2.0 credits, grading scale: P, F
- TEN1 - Examination, 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.

Other requirements for final grade

Active participation in seminars 2 credits P/F

Written/oral presentation of assignments 2 credits P/F

Written exam 2 credits A-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.