



# HN2004 Cognitive Ergonomics

## 6.0 credits

Kognitiv ergonomi

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 HN2004 valid from Autumn 2011

### Grading scale

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

### Education cycle

Second cycle

### Main field of study

Medical Engineering

### Specific prerequisites

Exam of at least 180 hp / 120 p from Swedish university or corresponding exam from another country within one of the fields health science, engineering or social/behavioural sciences or another relevant exam. At least 60 hp / 40 p of these should be referred to one of the fields anatomy, physiology, psychology, sociology, pedagogics, cognitive science, production engineering, product design or another relevant field. Further, Swedish B and English A is required. Exceptions from this may be made if an applicant is considered to fulfil the requirements at the registration for the course, according to the requirements of KTH.

## Language of instruction

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

## Intended learning outcomes

The students shall after their studies be able to:

- understand and in practice apply knowledge about humans cognitive abilities and limitations in the interaction between humans and machine systems
- analyze and propose improved interfaces between humans and machine systems
- understand and assess how allocation of functions between humans and machine systems influences the interaction between humans and machines and system performance
- apply and make cognitive aspects in a HTO analysis visible

## Course contents

- Humans as an information processing system
- Humans cognitive abilities and limitations
- Design of interfaces between humans and machine systems
- Hierarchical task analysis
- A safety perspective
- Automation and allocation of functions between humans and machines

## Disposition

Lectures, seminars, exercises and group tasks

## Course literature

Wickens, C.D., Hollands, J.G., Banbury, S., Parasuraman, R. (2013) Engineering Psychology and Human Performance, 4th ed. New Jersey: Pearson Education Inc.

Norman, D. (2013) The Design of Everyday Things. New York: Basic Books.

Artiklar.

Utdelat material.

## Examination

- SEM1 - Assignment and Seminar, 1.0 credits, grading scale: P, F

- SEM2 - Assignment and Seminar, 1.0 credits, grading scale: P, F
- SEM3 - Assignment and Seminar, 1.0 credits, grading scale: P, F
- TEN2 - Examination, 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.

The grading is done using the following scale: A, B, C, D, E, F, Fx, and is based on the examinations in the course.

## **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.