



HM1025 Ergonomics in Product Development 6.0 credits

Ergonomi i produktutvecklingen

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

On 2020-04-22, the Head of School of CBH has decided to establish this official course syllabus to apply from the autumn semester 2020 (registration number C-2020-0786).

Grading scale

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

Education cycle

First cycle

Main field of study

Mechanical Engineering, Technology

Language of instruction

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

Intended learning outcomes

The overall aim of the course is that the students as engineers shall be able to contribute to the development of better work environments/products and reduce personal injuries. Through practical work in the field of ergonomics the students concur basic knowledge in ergonomics and its importance in product development.

After fulfilling the course requirements, each student shall be able to:

1. With their own words explain fundamental concepts and fields such as personal injury risks, human physical and psychological possibilities and constraints, over-exertion injuries and methods for risk management and product development,
2. Explain and practically use some ergonomics methods and models such as used Borg's subjective rating scales and the risk management tool RAMP,
3. Methodically and in a structured way develop a prototype, test and evaluate it from an ergonomics perspective,
4. Document and communicate the result of their own work orally and in writing and study and judge the work of others in a structured way

Course contents

Lectures that give an overview of the subject with theories, facts and applied examples. These include: physical, system, and cognitive ergonomics; man, anthropometry, biomechanics, visual ergonomics, personal injury risks, methods in ergonomics studies, limit values and recommendations, ergonomics and economics and the product development process

Three laboratory work sessions where the focus is on learning how to apply a selection of ergonomics methods.

A project where the objective is to shape and carry out a project to improve ergonomics, develop a prototype and evaluate it with the help of users. The project includes collaboration as well as independent work and the students give and receive feedback to / from other students

Specific prerequisites

Examination

- PROA - Project, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TENA - Examination, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVNA - Exercises, 1.0 credits, grading scale: P, 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

Requirements for final grade:

Written exam (TENA; 2 cr.), grading scale A-F

Passed project (PROA; 3 cr.), oral and written presentation, grading scale A-F

Labs, work-shops, seminars, assignments (ÖVNA1; 1.5 cr.), grading scale P/F

Final course grade according to grading scale 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.