



CH2007 Product Design in Ergonomics and Sports 7.5 credits

Produktdesign i ergonomi och idrott

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

Establishment

On 2019-10-15, the Head of School of CBH has decided to establish this official course syllabus to apply from autumn semester 2020 (registration number C-2019-1942).

Grading scale

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

Education cycle

Second cycle

Main field of study

Technology and Health

Specific prerequisites

SF1103 Mechanics, Smaller Course and a bachelor degree

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 develop usable products, to analyse and support effective and safe work and sports performance.

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, sports performance, over-exertion injuries and methods for risk management and product development,
2. Explain and practically use design and ergonomics methods, such as Nielsen usability models, biomechanical models and Borg's subjective rating scales,
3. Methodically and in a structured way develop a prototype, test and evaluate it from ergonomics perspectives, such as risk, usability and efficiency,
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 and applied examples. These include: biomechanics, cognitive psychology, anthropometrics, personal injury risks, product development process, usability, product design

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

Examination

- TEN1 - Written exam, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Laboratory work, 2.5 credits, grading scale: P, F
- PRO1 - Project, 3.5 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.