CH2013 Introduction to Technology, Work and Health 7.5 credits

Introduktion till teknik, arbete och hälsa

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 CH2013 valid from Autumn 2023

Grading scale

P, F

Education cycle

Second cycle

Main field of study

Technology and Health

Specific prerequisites

Academic first degree, 180 higher education credits in engineering or natural sciences or equivalent education and English language skill equivalent 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 aim of the course is to introduce students to the scope of ergonomics practice and how to improve the work environment. The course includes a survey of theoretical frameworks, methods, and models used in the domain, with a more detailed study of musculoskeletal loading in the workplace.
On successful completion of this course each student should be able to:

1. Reflect on and exemplify interactions between work and health using a systems (human, technological and organizational, HTO) perspective.

2. Describe and reflect on laws, regulations, and standards in the subject area, and how they are used by ergonomists and work environment engineers to promote systematic work environment management.

3. Exemplify and describe different types of health hazards in the workplace and how these hazards may affect workers' health and performance.

4. Recognize musculoskeletal loading hazards in the workplace and be able to perform basic risk assessments.

5. Discuss and reflect on professional skills in the field of occupational safety and health, including project management, professional ethics, and collaboration competencies.

6. Reflect on how healthy and sustainable work environments contribute to the achievement of the UN Sustainability Goals.

Course contents

· Ergonomics and HTO models, including systems thinking.

· Systematic work environment management, including legal framework of provisions, inspections, and standards.

· Ergonomics design principles, for example, Participatory Ergonomics, Hierarchy of Controls (i.e. prevention strategies), and Anthropometry.

· Workplace hazards, including risk factors for work-related musculoskeletal disorders.

· RAMP I – a basic risk assessment of musculoskeletal loading hazards in the workplace.

· Sustainability Goals including equality in health and key competencies for sustainability.

· Professional skills and ethicswithin occupational health and safety.

Examination

- LAB1 - Laboratory work, 2.0 credits, grading scale: P, F
- PRJ1 - Project work, 1.5 credits, grading scale: P, F
- SEM1 - Seminars, 4.0 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.

Learning goal 1-2 and goal 5 is examined in SEM1.Learning goal 3-5 is examined in LAB1 and in PRJ1.

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.