



HN2018 Ergonomics for the Prevention of Musculoskeletal Disorders 7.5 credits

Belastningsergonomi

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

Establishment

Course syllabus for HN2018 valid from Autumn 2018

Grading scale

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

Education cycle

Second cycle

Main field of study

Technology and Health

Specific prerequisites

Academic first degree, 180 higher education credits/ECTS, in engineering or natural sciences or equivalent education. 15 credits/ECTS in mathematics or statistics

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, the students should be able to:

- understand and apply knowledge about human physical capacity, needs and limitations in work situations
- describe the holistic interactions between humans and their work, and how this influences quality and effectiveness in the work system
- describe and explain causes and prevention of musculoskeletal problems
- explain the importance of work organization from a physiological perspective
- give proposals of design of workplaces and equipment

Course contents

- Anthropometrics
- Work physiology
- Musculoskeletal disorders
- Biomechanics and biomechanical calculations
- Design of workplaces, products and aids

Course literature

Technology and work on human terms. Prevent

Toomingas, A., Mathiassen, S. & Wigaeus Tornqvist, E. (red.) (2012). Occupational Physiology. Boca Raton, FL: CRC Press.

Pheasant S. and Haslegrave, C. Bodyspace - anthropometry, ergonomics and design of work. 3:rd ed. Taylor & Francis, London, 2006.

Wilson J and Sharples S, eds, Evaluation of human work, Fourth ed. CRC Press, 2015

Scientific papers presented at the course start and listed on the course web

Examination

- SEM1 - Assignment and seminar, 2.5 credits, grading scale: P, F

- TEN1 - Examination, 3.5 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory work, 1.5 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.

If the course is discontinued, students may request to be examined during the following two academic years.

Requirements for final grade:

Active participation in seminars, laboratory and other exercises

Written presentation of assignments

Other requirements for final grade

LAB1 - Laboratory Work, 1.5, grade scale: P, F

SEM1 - Assignment and Seminar, 2.5, grade scale: P, F

TEN1 - Examination, 3.5, grade scale: A, B, C, D, E, Fx, 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.