HN2003 Physical Ergonomics 6.0 credits

Belastningsergonomi

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 HN2003 valid from Autumn 2009

Grading scale

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

Education cycle

Second cycle

Main field of study

Medical Engineering

Specific prerequisites

Degree of at least 180 hp / 120 p from Swedish university or corresponding degree from another country within one of the fields health science, engineering or social/behavioural sciences. 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 or product design. 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 apply knowledge about human physical capacity, needs and limitations in work situations
- understand holistic interactions between humans and their work, and how this influences quality and effectiveness in the work system
- understand 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
- Physical ergonomics
- Biomechanics and biomechanical calculations
- Design of workplaces, products and aids

Disposition

The course comprise lectures, seminars and project group work and is partly based on the students work experience.

Course literature

- Toomingas A, Mathiassen S-E och Wigaeus Tornqvist E, Arbetslivsfysiologi. Studentlitteratur, Lund, 2008.
- Pheasant S. and Haslegrave, C. Bodyspace - anthropometry, ergonomics and design of work. 3:rd ed. Taylor & Francis, London, 2006, selected parts.
- AFS 1998:1. Belastningsergonomi. Arbetsmiljöverket.
- Course material and handouts.

Additional literature for certain individual tasks

- Hägg, G.M. Handintensivt arbete - En belastningsergonomisk kunskapsöversikt gällande människans kapacitet och interaktion med verktyg och arbetsuppgifter Arbetslivsinstitutet, Arbete & Hälsa 2001:9 (available from the webb)
- Wilson, J.R. & Corlett, E.N. (Eds.) (2005) Evaluation of human work, Taylor & Francis, London (3rd ed.).

Examination

- LAB1 - Laboratory Work, 2.0 credits, grading scale: P, F
- TEN1 - Examination, 4.0 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.