LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Ergonomi
Ergonomics

MAMF30, 6 credits, G2 (First Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED C/D
Date of Decision: 2023-04-18

General Information

Main field: Technology.
Compulsory for: KID2, MD3
Elective for: BME4-bdr
Language of instruction: The course will be given in Swedish

Aim

The aim of the course is for the students to learn how to develop products, phenomena and environments adapted to the human physical and cognitive conditions.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- be able to define basic concepts of ergonomics.
- be able to describe how the physical and cognitive capacity can vary among different individuals.
- be able to problemize the interaction between humans, technology, situation and activity.
- be able to describe the structure, function and capacity of the human body according to ergonomic aspects.

Competences and skills
For a passing grade the student must

- be able to analyse a product or phenomenon from an ergonomic perspective.
- be able to detect and identify possibilities and shortcomings in the interaction between

the human and a product or phenomenon at an early stage by using methods in ergonomics, and carry out measurements and analyze results to evaluate differences between products.
- be able to find, select and prioritise relevant information with help of group members.
- be able to communicate results orally and in writing (e.g. a poster).

Judgement and approach
For a passing grade the student must

- be able to take into account that people are different with a great variety of conditions.
- be able to express the attitude that humans are primary not to blame when a product or phenomenon gives high load or is hard to use, and instead see the positive challenge in trying to make products and phenomena adapted to the human.
- advocate a human-centred and participatory design process.
- sustainable perspectives of manaufactured products

Contents

The course includes a reality linked company project, that puts the theory of work load and cognitive ergonomics in context. The course also contains individual and group assignments and lectures/seminars that cover the following areas:

- Concepts and fundamentals in ergonomics
- Cognition, human abilities and limitations
- Attention. Visual and auditory perception.
- Environmental factors
- Usability. Analyses of user interfaces
- Cognitive design
- Antropometrics and body angles
- Subjective and objective methods for measuring work load ergonomics

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)
Assessment: A passing grade will be given to students who pass individual and group assignments, laboratory excercise and written and oral presentations of group assignments/project.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Admission

The number of participants is limited to: No
The course overlaps following course/s: MAMA05, MAMA11

Reading list

- Norman, D. A.: The Design of Everyday Things. Basic Books, 2013, ISBN: 9780465050659.
- Hägg G., Ericson M., Odenrick P. , Bohgard M., m fl,: Fysisk belastning i boken Arbete och teknik på människans villkor, kap 4. Prevent, Stockholm, 2008.

- Material that is handed out at the beginning of the course and at the lectures and seminars.

Contact and other information

Examinator: Håkan Eftring, universitetslektor, hakan.eftring@certec.lth.se
Course coordinator: Håkan Eftring, universitetslektor, hakan.eftring@certec.lth.se
Course coordinator: Hillevi Hemphälä, hillevi.hemphala@design.lth.se
Course homepage: http://www.certec.lth.se/english/education
Further information: The course is given in collaboration (in equal parts) between the divisions EAT and Certec at the Department of Design Sciences.