COURSE SYLLABUS

Human Factors Engineering, 7.5 credits

Människa-Teknik-Organisation, 7,5 högskolepoäng

Course Code:	TMTR28	**Education Cycle:**	Second-cycle level
Confirmed by:	Dean Apr 6, 2018	**Disciplinary domain:**	Technology (75%) and social sciences (25%)
Valid From:	Aug 1, 2018	**Subject group:**	AE1
Version:	1	**Specialised in:**	A1N
		Main field of study:	Production Systems

Intended Learning Outcomes (ILO)

After completing the course, the student shall

Knowledge and understanding
- have knowledge about the human abilities and limitations from physical, physiological and cognitive perspectives
- have knowledge about what characterizes usability in human-technology systems
- show understanding for the importance of decision latitude, participation and influence in work
- have knowledge about how risks occur, are identified, analysed and prevented in human-technology systems
- have knowledge about guiding principles in the legislation within the work environment area and its consequences for production

Skills and abilities
- show ability to apply methods and models for analysis of the human at work and the interaction between human, technology and organization

Judgement and approach
- show insights into the health risks as well as consequences and prevention of health risks in work systems

Contents

Design of work systems, thereby implying that our work settings must always originate from the abilities and limitations of the human to be productive and sustainable. The course provides profound insights in system analysis of work settings based on the interaction between the system components human – technology – organization (HTO) as a fundamental prerequisite.

The course includes the following parts:
- System perspective of human – technology – organization (HTO); theoretical base, system models and applications
- The abilities and limitations of the human concerning work and work design physically,

physiologically and cognitively
- Work organization: the importance of decision latitude, participation and influence
- Usable systems: Usability design of interfaces human – technology
- Automation and allocation of functions in a human – technology system
- Methods for analysis of the human at work and the interaction human – technology
- Work environment legislation: general development in the EU, management system inspection
- Identification, analysis, consequences and prevention of risks in work systems

Type of instruction

Lectures, seminars, exercises and project work.

The teaching is conducted in English.

Prerequisites

The applicant must hold the minimum of a bachelor's degree (ie. the equivalent of 180 ECTS credits at an accredited university) with at least 90 credits within the major subject Mechanical Engineering, Industrial Engineering and Management or Civil Engineering, and 15 credits in Mathematics or equivalent. Proof of English proficiency is required.

Examination and grades

The course is graded 5,4,3 or Fail .

The final grade will only be issued after satisfactory completion of all assessments.

Registration of examination:

Name of the Test	Value	Grading
Examination[1]	3.5 credits	5/4/3/U
Seminars, Exercises and Assignments[2]	2 credits	U/G
Project Work[3]	2 credits	U/G

[1] Determines the final grade of the course, which is issued only when all course units have been passed.

[2] Seminars and exercises require compulsory attendance and active participation.

[3] Project Work require active participation.

Other information

Exemption from entry requirement allowed according to the selection groups of the program, where the course is included.

Course literature

Literature

The literature is preliminary until one month before the course starts.

Title: Work and Technology on Human Terms.
Author: Bogard, M. et al (2009)
Publisher: Stockholm:Prevent
ISBN:9789173650588

Compendium (digital, pdf) and selection of articles.