COURSE SYLLABUS
Work-Human-Technology, 9 credits

Arbete-Människa-Teknik, 9 högskolepoäng

Course Code:	TAMK14	**Education Cycle:**	First-cycle level
Confirmed by:	Dean Feb 27, 2014	**Disciplinary domain:**	Technology (95%) and social sciences (5%)
Revised by:	Director of Education Aug 16, 2018	**Subject group:**	IE1
Valid From:	Aug 1, 2018	**Specialised in:**	G1F
Version:	2	**Main field of study:**	Industrial Engineering and Management

Intended Learning Outcomes (ILO)

On completion of the course, the student should

Knowledge and understanding

– Demonstrate knowledge and understanding of the area work-human-technology and its role in industrial operations, including the knowledge about basic concepts, methods and models, as well as awareness of current research issues
– Demonstrate knowledge and understanding of design, management and development of industrial activities with a focus on different ways to treat the individual at work, how various aspects of work are interrelated and human capabilities in work from a system perspective as well as legislation in occupational health

Skills and abilities

– Demonstrate the ability to design, manage and develop industrial activities by using the ability to assess job design based on diverse human capabilities
– Demonstrate the ability to identify, formulate and analyze relevant problems in the field of work-human-technology
– Demonstrate the ability to search, collect, evaluate and critically interpret information regarding relevant problems in the field of work-human-technology
– Demonstrate the ability to critically discuss relevant problems and solutions in the field of work-human-technology
– Demonstrate the ability to plan and conduct investigations in the field of work-human-technology
– Demonstrate the ability to work independently in the field of work-human-technology

Judgement and approach

– Demonstrate the ability to propose and compare different options for the design, management and development of industrial operations with a focus on job design and assess their implications and risks
– Demonstrate an insight in relevant social and ethical issues, with a focus on socially

sustainable development

Contents

The course provides knowledge and understanding of how industrial systems can be designed to best use human natural strengths and limitations and result in high performance and sustainable production. This also implies a deeper knowledge of the interaction and interplay between humans at work and the surrounding technology and organization in industrial systems.

The course includes the following topics:
– Human capabilities for work and job design: physiological work load, physical work environment aspects, cognition, work, stress, shift work
– Socio-technical systems: theoretical foundations, systems, models and applications
– Workplace design and impact of complexity
– Design of system interfaces man - machine
– Workplace assessment
– Swedish health and safety legislation: framework, regulations and oversight

Type of instruction

Lectures, exercises, laboratories, seminars, and project work.

The teaching is conducted in English.

Prerequisites

General entry requirements and completed course Operations Management 6 credits (or the equivalent).

Examination and grades

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

Registration of examination:

Name of the Test	Value	Grading
Examination	3 credits	5/4/3/U
Seminars and Laboratory work	2 credits	U/G
Project work	4 credits	5/4/3/U

Course literature

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

Title: Production Ergonomics: Designing Work Systems to Support Optimal Human Performance
Author: Cecilia Berlin, Caroline Adams
It can be bought as print from this homepage, https:
www.waterstones.com/book/9781911529125,
*or downloaded for free here, https:*www.ubiquitypress.com/site/books/10.5334/bbe/.