

SYLLABUS

Human-Machine-Interaction

7.5 credits P0067A

Människa-Maskin-Interaktion

Course syllabus admitted: Spring 2020 Sp 4 - Spring 2021 Sp 4

DECISION DATE
2020-01-17

Human-Machine-Interaction 7.5 credits P0067A

Människa-Maskin-Interaktion

First cycle, P0067A

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G VG *	Teknisk psykologi	Psychology

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Design: process and method (D0030A) and Design: theory and practice (D0037A) or Design: Interaction and prototypes (D0039A) or equivalent.

Selection

The selection is based on 1-165 credits.

Examiner

Jörgen Normark

Course Aim

Knowledge and understanding

The student should after the course be able to:

- demonstrate knowledge of industrial design engineering with a focus on human interaction with systems
- demonstrate knowledge of cognitive ergonomics

Skills and Abilities

The student should after the course be able to:

- demonstrate basic ability to explore, evaluate and develop the interaction between user and system
- demonstrate basic ability to choose and use relevant methods for analysis and design of user interfaces
- implement basic knowledge regarding cognitive ergonomics, interaction design, as well as design principles for evaluating and predicting problems related to the use of technical systems
- design sustainable products and systems with starting point in human prerequisites and needs

Judgment and approach

The student should after the course be able to:

- demonstrate the ability to make judgments of systems' influence on humans, companies and the society
- demonstrate the ability to make ethical judgments
- demonstrate insight in technology's possibilities and limitations, technology's role in society, and humans responsibilities for its use including social and economic aspects as well as work environment aspects.

Contents

The course covers:

- Theory of perception, cognitive ergonomics, memory, problem solving, and how to use these theories in interaction design
- Usability
- User experience
- Design principles for usable design
- Methods for evaluation and design of technical systems

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

The course starts with a theory part where relevant theory and methods are dealt with and worked with in smaller exercises. The course also contains a project work in which the students themselves should make use of the methods and theories in order to analyze a system, product, or service. The project also includes development of the system in order to better suit the user regarding cognitive ergonomics and usability. The project work is presented orally, visually, and in written form.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. The students' theoretical knowledge of cognitive ergonomics is examined through hand-in of assignments. The students' ability to implement the knowledge of cognitive ergonomics, interaction design, and design principles as well as the ability to make relevant judgments and demonstrate insight in how technology affect humans and society is examined through a group project assignment.

Remarks

Students must register for the courses themselves, or contact ETKS educational administration eduetks@itu.se, not later than three days after the quarter commences. Failure to do so can result in the place being lost. This rule also applies to students with a guaranteed place.

The course cannot be included in a degree together with ARP101, P0001A or any other course with similar content.

Overlap

The course P0067A is equal to D0055A, P0001A

The course P0067A is equal to P0001A.

Literature. Valid from Spring 2020 Sp 4

Bohgard, M et.al (2015) Arbete och teknik på människans villkor. Prevent.
Hela bokens innehåll finns även samlat som pdf (på engelska) i en mooc på länken <https://www.prevent.se/onhumanterms/>

Additional literature can be added and provided through the course room in Canvas

Course offered by

Department of Social Sciences, Technology and Arts

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Individual assignment report	U G VG *	3	Mandatory	A16	
0002	Project assignment	U G VG *	4.5	Mandatory	A16	

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Director of Undergraduate Studies Daniel Örtqvist, Department of Business Administration, Technology and Social Sciences 2020-01-17

Syllabus established

by Director of Undergraduate Studies Bo Jonsson, Department of Business Administration, Technology and Social Sciences 2016-02-15