

SYLLABUS

Human-Machine-Interaction

7.5 credits D0055A

Människa-Maskin-Interaktion

Course syllabus admitted: Autumn 2023 Sp 1 - Present

DECISION DATE
2022-02-11

Human-Machine-Interaction 7.5 credits D0055A

Människa-Maskin-Interaktion

First cycle, D0055A

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	U G VG	Industriell design	Other Subjects within Technology

Main field of study

Information Systems Sciences

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 completed the following courses with at least the grade Pass: Design: process and method (D0030A) 15 credits and Design: theory and practice (D0037A) 15 credits or Design: Interaction and prototypes (D0039A) 15 credits, or equivalent knowledge.

Selection

The selection is based on 1-165 credits.

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 has a theoretical part where relevant theory and methods are dealt with and worked with in smaller exercises. The course 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 is examined through hand-in of assignments. The students' ability to implement the knowledge 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.

Unauthorized aids during exams and assessments

If a student, by using unauthorized aids, tries to mislead during an exam or when a study performance is to be assessed, disciplinary measures may be taken. The term "unauthorized aids" refers to aids that the teacher has not previously specified as permissible aids and that may assist in solving the examination task. This means that all aids not specified as permissible are prohibited. The Swedish version has interpretative precedence in the event of a conflict.

Remarks

Students must register for the courses themselves, or contact ETKS educational administration eduetks@ltu.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 replaces the course P0067A Human-Machine-Interaktion.

The course cannot be included in a degree together with ARP101, P0001A, P0067A or any other course with similar content.

Overlap

The course D0055A is equal to ARP101, P0067A, P0001A

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	S21	
0002	Project assignment	U G VG	4.5	Mandatory	S21	

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 Social Sciences, Technology and Arts 2022-02-11

Syllabus established

by Director of Undergraduate Studies Daniel Örtqvist, Department of Social Sciences, Technology and Arts 2021-02-17