



IC1007 Human-computer Interaction: Principles and Design

7.5 credits

Människa-dator interaktion: Principer och Design

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

The official course syllabus is valid from the autumn semester 2022 in accordance with Head of School decision: J-2022-1553. Decision date: 2022-06-16

Decision to discontinue this course

The course is discontinued at the end of the spring semester of 2024 according to Head of School decision: J-2022-1553. Decision date: 2022-06-16 The course was given for the last time autumn 2021. The last opportunity for examination in the course is given in the spring of 2024. The exam is offered both in the regular and in the re-examination period VT23 and VT24. Students can follow the course and be examined within the framework of DH1622.

Grading scale

A, B, C, D, E, FX, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After completing the course with a passing grade the student should be able to:

- explain basic concepts in the field of HCI
- summarise the contents of research papers in the area
- explain and present design properties of interactive artifacts for different stakeholders
- carry out a smaller design project in a group (including simple project management)
- carry out an inspection method, e.g. Heuristic Evaluation, of existing interactive computer systems
- carry out formative usability tests of own prototypes
- be able to apply a creativity technique, e.g. Brainstorming or similar
- create paper prototypes and digital interactive prototypes
- apply general theoretical concepts on concrete interfaces
- based on a given design task discover and identify what characterises the intended target group and situation of usage
- identify and formulate usability requirements after completed field studies
- identify advantages and disadvantages of a specific interactive computer system based on the perspectives and needs of different user groups
- argue for and against different solutions of a usability problem
- reflect on the strengths and weaknesses of their own design based on literature and own evaluations

in order to

- get basic knowledge of fundamental concepts in the area of human computer interaction
- get tools to identify factors that influence the communication between human and computer positively and negatively
- meet design methods that support the development of useful systems.

Course contents

- The nature of the field of Human Computer Interaction. History- Perspectives- Research.
- At a general level; perception and representation, consciousness and memory, conceptual models and learning.
- Properties of interactive systems, the communication situation, media for communication, interaction technologies and processes.

- Interactive systems in relation to individuals, tasks and organisations, motives for improvements of interactive systems, functionality- usability, models and modeling conflicts, adaptation of systems with respect to users and activities, learning, education and documentation.
- Analysis of applications.

Examination

- INLB - Homework, 6.0 credits, grading scale: A, B, C, D, E, FX, F
- TENB - Written exam, 1.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.