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.

Establishment

Course syllabus for IC1007 valid from Autumn 2008

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Eligibility for single course students not attending a regular KTH programme:

Completed upper secondary schooling (diploma, transcript in the original language and authorized translations) incl documented proficiency in English.

Language of instruction

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

Intended learning outcomes

Knowledge and comprehension
The student is, after completion of the course, expected to be able to:
• give an account of basic concepts within the field of HCI (regarding human cognition, interfaces, interaction and iterative system development).
• give an account of most of the existing styles of interaction, both from a user perspective and from a developer perspective.
• give an account of a large number of interaction devices and be able to decide which usage situation it is best suited for.
• describe different ways to design interactive computer systems, with regard to the peoples whole situation (e.g. mobility, affection, work and leisure, etc.)
Skills and capacities
The student is, after completion of the course, expected to be able to:
• incorporate the content of a research article within the field.
• analyze interactive computer systems from a usability perspective.
• conduct an expert evaluation (e.g. Heuristic Evaluation and Cognitive Walkthrough) of existing interactive systems.
• adapt a design of an interactive computer system to the needs of different user groups.
• create simple paper prototypes.
Values and attitudes
The student is, after completion of the course, expected to be able to:
• choose relevant evaluation methods for a given specific computer system and context.
• choose style of interaction and interaction device for a given user group adjusted for their tasks and situation.
• argue for different solutions to a usability problem.
• discuss pros and cons with an interactive computer system from the point of view of different user groups.
• apply general theoretical concepts to concrete interfaces.

Course contents

The course addresses central concepts within the area of Human Computer Interaction as well as theory and methods to include limitations and potentials of humans when designing computer systems, i.e. knowledge about the human perceptual, communicative and cognitive processes. The area is clearly multidisciplinary and contains a number of topics, i.e. psychology, linguistics and graphic design. The course also addresses the methodology for planing and execution of studies in the process of constructing as well as evaluating computer systems. This consist of:
History, perspectives and research in the area of Human Computer Interaction
Overview of perception and representation, awareness and memory, conceptual models and learning
Properties of interactive systems,
the communicative situation,
communicative media

---

interactive systems correlated to individuals, tasks and organisations
motives for improvement of interactive systems
functionality and usability
models and conflicts within models
adaptation of systems for users and tasks
learning and education
documentation
analysis of applications

Disposition

The course consists of approx. 9 lectures, 6 mandatory seminars and a number of assignments.

Course literature

- Norman, Donald: Design of Everyday Things, Currency Doubleday, 0-385-26774-6

- Compiled by Patric Dahlqvist and Ulrika Norman: Human Computer Interaction, Pearson Education, 2006, 1-84658-355-1

Examination

- INL1 - Assignment, 4.5 credits, grading scale: P, F

- TEN1 - Examination, 3.0 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.

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

Written exam 3hp (credits) (Grades A/B/C/D/E/Fx/F).
3 assignments, and active participation on the mandatory seminars 4,5hp(Grades Pass/Fail).
In the beginning of the course there is a 'dugga'/quiz (not mandatory). Passed dugga gives the student 4 extra points at the regular written exam at the end of the course. The dugga-points can not be used at later examinations.
To pass the course, the student must have passed both the written exam, the assigments and activley participated at the mandatory seminars. There are deadlines for the assignments and they are presented at the beginning of the course. The total grade of the course is based on the grade of the written exam.
If the student is close to pass the exam (assessed by the examinator), the student gets the opportunity to pass the exam by doing a complement assignment. This assignment can only give the grade E, and not higher. The assignment must be sent in according to given deadline and can only be used to raise the grade to E on the current exam.

Other requirements for final grade

To pass the course, the student must have passed both the written exam, the assigments and activley participated at the mandatory seminars. There are deadlines for the assignments and they are presented at the beginning of the course. The total grade of the course is based on the grade of the written exam.

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.