# IC1007 Människa-dator interaktion: Principer och Design 7,5 hp

Human-computer Interaction: Principles and Design

När kurs inte längre ges har student möjlighet att examineras under ytterligare två läsår.

## Fastställande

Kursplan för IC1007 gäller från och med HT08

## Betygsskala

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

## Utbildningsnivå

Grundnivå

## Huvudområden

Teknik

## Särskild behörighet

**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.

# Undervisningsspråk

Undervisningsspråk anges i kurstillfällesinformationen i kurs- och programkatalogen.

# Lärandemål

**Course goals**

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.

# Kursinnehåll

**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

# Kursupplägg

**Course disposition**

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

# Kurslitteratur

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 - Inlämningsuppgift, 4,5 hp, betygsskala: P, F
- TEN1 - Tentamen, 3,0 hp, betygsskala: A, B, C, D, E, FX, F

Examinator beslutar, baserat på rekommendation från KTH:s handläggare av stöd till studenter med funktionsnedsättning, om eventuell anpassad examination för studenter med dokumenterad, varaktig funktionsnedsättning.

Examinator får medge annan examinationsform vid omexamination av enstaka studenter.

**Examination comment**

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.

# Övriga krav för slutbetyg

**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.

# Etiskt förhållningssätt

- Vid grupparbete har alla i gruppen ansvar för gruppens arbete.
- Vid examination ska varje student ärligt redovisa hjälp som erhållits och källor som använts.
- Vid muntlig examination ska varje student kunna redogöra för hela uppgiften och hela lösningen.