DT2350 Human Perception for Information Technology 6.0 credits

Mänsklig perception för informationsteknik

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

Establishment

Course syllabus for DT2350 valid from Autumn 2013

Grading scale

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

Education cycle

Second cycle

Main field of study

Computer Science and Engineering, Information Technology, Information and Communication Technology

Specific prerequisites

Single course students: 90 university credits including 45 university credits in Mathematics and/or Information Technology and the courses DD1337 Programming and DH1620 Human-Computer Interaction, Introductory Course or equivalent.

Language of instruction

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

Intended learning outcomes

The course gives the students fundamental theoretical and practical knowledge of human perception with particular focus on information technology.

The main focus is on human perception and its functioning, and how it should be taken into account in information technology applications.

After completing the course, you should be able to:

- identify and describe the major principles of human perception, including vision, motion, color, sound, and speech
- conduct and document fundamental experiments for the measurement of perception in different modalities
- identify, describe and analyze the possible perceptual strengths and pitfalls in the design of interfaces for human-machine interaction
- propose and motivate efficient designs for new applications/devices in which human perception plays a fundamental role.

Course contents

- Introduction to the physiology of perception
- Ecological approach to perception
- Introduction to the main methods for perception measurement
- Introduction to vision, including perception of objects and scenes
- Motion perception
- Color perception
- Sound, the Auditory System, and Pitch Perception
- Speech Perception
- Introduction to the fields of multisensory processing, and sensory substitution

Course literature

Selected chapters from:

Goldstein, E. (2009). Sensation and Perception. Belmont, CA: Wadsworth Publishing. ISBN 0495601500

Suggested reading:

Weinschenk, S.M. (2011). 100 Things Every Designer Needs to Know About People. Berkeley, CA: New Riders Publishing. ISBN 0321767535

Off-prints completing the material presented in the course book, as well as off-prints describing research on multisensory processing and sensory substitution will be made available through the course page.

Examination

- INL1 - Assignments, 2.5 credits, grading scale: A, B, C, D, E, FX, F
- PRO1 - Project, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 1.5 credits, grading scale: P, 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.

In this course all the regulations of the code of honour at the School of Computer science and Communication apply, see: http://www.kth.se/csc/student/hederskodex/1.17237?l=en_UK

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.