



DM2350 Human Perception for Information Technology 7.5 credits

Mänsklig perception för informationsteknik

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

Course syllabus for DM2350 valid from Spring 2019

Grading scale

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

Education cycle

Second cycle

Main field of study

Computer Science and Engineering

Language of instruction

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

Intended learning outcomes

The course provides the students basic theoretical and practical knowledge of the human conception with particular focus on IT. The emphasis lies on the human perception and its function and how it should take consideration to the technical applications.

On completion of the course, you should be able to:

- identify and describe the most important principles of human perception including view, movement, colour, sound, music and number
- carry out and document fundamental experiments for measurement of perception in different modalities
- identify, describe and analyse the possible perceptual strengths and the pitfalls in the design of interface for man-machine interaction
- suggest and motivate efficient models for new applications/units where human perception plays a fundamental role.

Course contents

- Introduction to the physiology of the perception.
- Ecological perspectives on perception.
- Introduction to the most important methods for perceptual measurements.
- Introduction to the visual system including the experience of objects and scenes.
- Motion perception.
- Colour perception.
- Sound, the hearing system and pitch perception.
- Speech perception.
- Introduction to the fields multisensory processing, and sensory substitution

Specific prerequisites

For single course students, at least two years of studies in media and communication technology are required, computer science, informatics or the equivalent as well as the courses DD1337 Programming technique, DH1620 Human-Computer Interaction or the equivalent.

Course literature

Chosen chapters from:

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

Suggested reading

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

Off-prints of articles that supplement the material in the course book as well as off-print that treat multisensory processing and sensory substitution.

Examination

- INL1 - Assignments, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory work, 1.5 credits, grading scale: P, F
- PRO1 - Project, 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.

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.