



# DT2140 Multimodal Interaction and Interfaces 7.5 credits

Multimodala interaktioner och gränssnitt

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

## Establishment

Course syllabus for DT2140 valid from Spring 2009

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

Computer Science and Engineering

## 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, the students should be able to

- Relate how human perception and cognition influence the possibilities and limitations of different HCI interfaces
- Describe the functionality of state-of-the-art multimodal HCI interfaces
- Evaluate the strengths and weaknesses of existing or proposed multimodal interfaces
- Propose efficient designs for new interfaces employing different modalities

## Course contents

The course will give the students theoretical and practical introductions to:

- human perception and cognition,
- human multimodal communication,
- different types of HCI interfaces used separately or in combination.

The main focus is on techniques for

- user input, such as speech recognition, motor sensors or eye and gesture tracking, and
- computer output, such as visual representations, unconventional display devices, speech synthesis, sounding objects and haptic devices.

In particular the effects of combining different modalities are addressed.

## Course literature

Coren, S., Ward, L.M. & Enns, J. T., "Sensation and perception", Wileys, 2003 and research papers.

## Examination

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

## Other requirements for final grade

One project and essay (3 university credits), a laboratory course with reports (3 university credits) and assignments (1,5 university credits)

## 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.