



# DH2400 Physical Interaction Design and Realization

## 7.5 credits

### Fysisk interaktionsdesign

---

Course syllabus for DH2400 valid from Autumn 09

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

**Grading scale:** P, F

**Education cycle:** Second cycle

**Main field of study:** Computer Science and Engineering, Information Technology, Information and Communication Technology

### Intended learning outcomes

Students will:

- get familiar with techniques and technologies allowing them to create interactive systems that work outside, or along with the classical mouse-keyboard-and-screen paradigm.

For that, the students will:

- be able to identify the sensors, actuators and microcontrollers needed for a system
- use sensors, actuators and microcontrollers for prototypes of various levels of fidelity
- put together prototypes in a hands-on manner.

### Course main content

Design:

- interaction with physical objects. Elements of industrial design
- state of the art "tangible" devices, giveaway sensor projects
- other physical forms of interaction: e.g. haptics, eye tracking, two-hand interaction, feet interaction, dance.

Technology:

- recap of electronic circuit basics, including resistors, capacitors and LEDs
- sensors and actuators for various destinations, built with various technologies
- prototyping interactive installations with Phidgets
- simple microcontrollers: BASIC Stamp, Arduino
- communicating with a computer or with another installation
- elements of advanced microcontrollers, wireless sensor networks
- elements of augmented reality.

### Language of instruction

Language of instruction is specified in the course offering information in the course and programme directory.

## Eligibility

## Literature

To be announced at least 4 weeks before course start.

## Examination

- PRO1 - Project, 7.5 credits, grading scale: P, F

In this course all the regulations of the code of honor at the School of Computer science and Communication apply, see: [http://www.kth.se/csc/student/hederskodex/1.17237?l=en\\_UK](http://www.kth.se/csc/student/hederskodex/1.17237?l=en_UK).

## Requirements for final grade

Installation construction and programming exercises, reflective diary and project (PRO1; 7,5 hp).