



DH2400 Physical Interaction Design and Realization 7.5 credits

Fysisk interaktionsdesign

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

On 2019-10-15, the Head of School of EECS has decided to establish this official course syllabus to apply from the spring semester 2020 (registration number J-2019-2400).

Grading scale

P, F

Education cycle

Second cycle

Main field of study

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

Specific prerequisites

Completed course in human computer interaction DH2620/DH1620/DH2624 or equivalent.

Language of instruction

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

Intended learning outcomes

Having passed the course, the student should be able to

- analyse and develop concepts for human computer interaction based on physical properties in a specific use context
- apply methods to stage, sketch and illustrate physical interaction
- account for how different materials and technologies can be combined in interactive systems
- apply selected parts of industrial design: production of physical models, mockups and prototypes with different tools and materials
- account for theory of physical interaction and interaction with physical objects
- discuss popular platforms, tools, products, systems, and research projects in the area
- through prototype development practically apply basic understanding of electronic circuits including resistance, capacitors, light-emitting diodes and different leading and resistive materials and sensors and actuators.
- implement a functioning interactive system based on specific physical circumstances
- reflect on design of physical interactive systems taking into consideration the preconditions and needs of people and the aim of the society for economic, social and ecologically sustainable development

in order to be able to create interactive systems better adapted to specific situations for physical use outside the conventional graphical interface paradigm .

Course contents

You will learn to identify sensors, actuators, interaction platforms, and physical materials that are needed and use these to develop prototypes and systems. We specifically work with different ways of sketching and building prototypes of various kinds including paper prototypes, role plays, video, mockups, small-scale and full scale models with different levels of implemented functionality. Through guest lectures, insight in how physical interaction design is realised in different domains is also given.

Examination

- PRO1 - Project, 7.5 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.

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.