UNIVERSITY OF GOTHENBURG

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DIT107 Tangible interaction, 7.5 credits

Tangible interaction, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Computer Science and Engineering on 2021-11-15 to be valid from 2023-01-16, spring semester of 2023.

Field of education: Science 100%
Department: Department of Computer Science and Engineering

Position in the educational system

The course can be offered as a single subject course.

The course can be part of the following programmes: 1) Computer Science, Master's Programme (N2COS) and 2) Computer Science, Bachelor's Programme (N1COS)

Main field of studies	*Specialization*
Interaction Design	A1F, Second cycle, has second-cycle course/s as entry requirements
Computer Science-Interaction Design	A1F, Second cycle, has second-cycle course/s as entry requirements

Entry requirements

To be eligible for the course the student must have a Bachelor degree of 180 hec. Special requirements are the course TIA108 Prototyping in Interaction Design 7.5 credits and a course in Human-Computer Interaction (TIG095) 7.5 credits or the equivalent.

To be eligible for this course as a programme student in the Computer Science Bachelor´s Programme, N1COS, the student must have passed at least 90 credits in programme courses and the addditional courses TIG095 Human Computer Interaction 7.5 credits and TIA108 Prototyping in Interaction Design 7.5 credits or the equivalent.

Learning outcomes
After completion of this course, the student should be able to:

Knowledge and understanding
- Explain how computational technology can be used for design of interactive systems,
- Explain human cognition and motor skills,
- Explain how human cognition and motor skills can guide the design and evaluation of tangible user interfaces,
- Explain theories of tangible interaction.

Competence and skills
- Design and realize interactive prototypes using tangible interface components,
- Choose appropriate and economic use of advanced components and corresponding techniques,
- Reflect on the relation between spatiality, form, and temporality in tangible interaction design.

Judgement and approach
- Criticize and discuss computer-based tangible artifacts,
- Question in which way computational technology is shaping our present and future society and way of life,
- Reflect on sustainability issues such as energy consumption and material waste caused by novel computational systems and devices.

Course content
Tangible interaction is based on physical interfaces that are either specifically developed for one system or for those that in new ways, allows interaction with computer systems.

The course puts the skills and knowledge acquired in the prototyping course into an applied context. Tangible interaction deals with computational technology and services and offers both theoretical and practical educational modalities. Lectures will present theory and development of tangible interaction and draws from research and commercial practice. Technologies such as sensors, actuators and smart materials are presented from a perspective of human interaction and use.

Sub-courses

1. **Take home examination** *(Hemtentamen),* 3.5 credits
   Grading scale: Pass with distinction (5), Pass with credit (4), Pass (3) and Fail (U)
2. **Project** *(Projekt),* 4 credits
   Grading scale: Pass with distinction (5), Pass with credit (4), Pass (3) and Fail (U)

Form of teaching

Education is performed through lectures, workshops and a group project.

Language of instruction: English

Assessment

The course is examined through two modules:

1. Project 4 credits (U-VG) and

2. Individual Written Home Essay 3.5 credits (U-VG)

Assessment is based on a group project performed in the studios, as well as an individual home essay.

A student who has failed the examination twice has the right to change examiners, if it is possible. A written application should be sent to the Department.

Grades

The grading scale comprises: Pass with distinction (5), Pass with credit (4), Pass (3) and Fail (U).
A pass grade requires passing grades on both sub-courses. The grade is a weighted combintion of the sub-course grades.

Course evaluation

After completion of the course the students are to be given the possibility of participating in course anonymously. Continuous evaluation will be used, including three meetings between teacher(s) and student representatives. Additionally, the course will be evaluated with a course questionnaire, and discussed with the student representatives.

Additional information

The course is a joint course together with Chalmers.

Course literature will be announced no later than 8 weeks prior to the start of the course.

The course replaces the course TIA107, 7.5 credits. The course cannot be included in a degree which contains TIA107. Neither can the course be included in a degree which is based on another degree in which the course TIA107 is included.