UNIVERSITY OF GOTHENBURG

DEP OF APPLIED INFORMATION TECHNOLOGY

TIA107 Tangible interaction, 7.5 higher education credits

Tangible interaction, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by The IT Faculty Board on 2010-12-21 and was last revised on 2016-02-23 by Department of Applied Information Technology to be valid from 2016-09-01, autumn semester of 2016.

Field of education: Science 100%
Department: Dep of Applied Information Technology

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*
Computer Science-Interaction Design	A1F, Second cycle, has second-cycle course/s as entry requirements
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.

Skills and abilities

- 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.

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 (VG), Pass (G) and Fail (U).

To receive a passing grade on the entire course, the student must have received a passing grade on both the Project and the Individual Written Home Essay.

To receive Pass with Distinction on the entire course, the student must have received at least the grade Pass on the Project and the grade Pass with Distinction on the Individual Written Home Essay.

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.