UNIVERSITY OF GOTHENBURG

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DIT486 Human-centred design and human factors, 7.5 credits

Human-centrerad design och mänskliga faktorer, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Computer Science and Engineering on 2020-11-24 to be valid from 2022-01-17, spring semester of 2022.

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

Position in the educational system

The course is provided as a part of the Computer Science Master´s Programme N2COS. The course is also offered as a programme course in the Computer Science Bachelor´s Programme N1COS.

The course can be part of the following programmes: 1) Computer Science, Master's Programme (N2COS), 2) Applied Data Science Master's Programme (N2ADS), 3) Computer Science, Bachelor's Programme (N1COS) and 4) Software Engineering and Management Master's Programme (N2SOF)

Main field of studies	*Specialization*
Computer Science-Interaction Design	A1N, Second cycle, has only first-cycle course/s as entry requirements
Interaction Design	A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

To be eligible to the course the student must have a Bachelor degree of 180 hec. Additionally, the courses DIT095 Human Computer Interaction 7.5 credits and DIT104 Interaction design methodology 7.5 credits, or the equivalent is required.

To be eligible for this course as a programme student in Science Bachelor´s Programme N1COS, the student must have passed at least 90 credits in programme courses and the

additional courses DIT095 Human Computer Interaction 7.5 credits and DIT104 Interaction design methodology 7.5 credits, or the equivalent is required.

Applicants must prove knowledge of English: English 6/English B or the equivalent level of an internationally recognized test, for example TOEFL, IELTS.

Learning outcomes

After completion of the course the student should be able to:

Knowledge and understanding

- Describe diversed theories and practices of human-centered design and human factors.
- Explain the broad psychological, sociological and ecological aspects of human-technology interaction.

Competence and skills

- Apply theories into concrete project practices.
- Plan and organize a project that is applying human-centered design and/or human factors methods, models and principles.
- Formulate research questions in various industrial context and address the issues or needs with theoretical and practical design knowledge.

Judgement and approach

- Explain the advantages and the limitations of different theories and methods in the area of human-centered design and human factors.
- Assess and motivate when human-centered design and human factors methods are applicable.
- Analyse issues within human-centered design and human factors from a holistic perspective.

The course is sustainability-related, which means that at least one of the learning outcomes clearly shows that the course content meets at least one of the University of Gothenburg's confirmed sustainability criteria.

Course content

The theoretical part presents the fundamental and state of the art of human-centered design and human factors from research to practical applications. Seminars provide additional theoretical grounding and reflection, as well as different practical experience/problems. The practical part is mainly the project development. The project will explore an design opportunity in an industrial context and produce both theoretical

insights and practical design solutions through human-centered design and/or human factors methods. The project is carried out in small groups.

Sub-courses

1. **Assignments** *(Inlämningsuppgifter),* 1.5 credits
   Grading scale: Pass (G) and Fail (U)
2. **Project** *(Projekt),* 3 credits
   Grading scale: Pass with distinction (5), Pass with credit (4), Pass (3) and Fail (U)
3. **Take home examination** *(Hemtentamen),* 3 credits
   Grading scale: Pass with distinction (5), Pass with credit (4), Pass (3) and Fail (U)

Form of teaching

The course features both practical and theoretical parts, as well as work in groups and individual work. Lectures, literature and seminars give a theoretical foundation. Focus is also on exchange of thoughts, feedback, designs and ideas. Hence, the course requires active participation. Students will spend a significant part of their study time reading literature and working in groups. The course consists of non-mandatory lectures and design workshops, mandatory seminars and assignments, group project, and individual home exam. It is strongly recommended that the students shall attend all the lectures because lectures can provide a basis for seminar discussion and home exam will consider the contents of lectures, seminars and projects.

Language of instruction: English

Assessment

The course is examined through three modules:

1. Assignments (1,5 hec).
2. Take home exam (3 hec).
3. One project (3 hec).

If a student, who has failed the same examined element on two occasions, wishes to change examiner before the next examination session, such a request is to be submitted to the department in writing and granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

In the event that a course has ceased or undergone major changes, students are to be guaranteed at least three examination sessions (including the ordinary examination session) over a period of at least one year, though at most two years after the course has ceased/been changed. The same applies to work experience and VFU, although this is

restricted to just one additional examination session.

Grades

The grading scale comprises: Pass with distinction (5), Pass with credit (4), Pass (3) and Fail (U).
To pass the course, all mandatory components must be passed. To earn a higher grade than 3, a higher weighted average from the grades of the components is required.

Course evaluation

The course is evaluated through meetings both during and after the course between teachers and student representatives. Further, an anonymous questionnaire is used to ensure written information. The outcome of the evaluations serves to improve the course by indication which parts could be added, improved, changed or removed.

Additional information

The course is a joint course together with Chalmers.

Course literature to be announced the latest 8 weeks prior to the start of the course.

The course replaces the course TIA100, 7.5 credits. The course cannot be included in a degree which contains TIA100. Neither can the course be included in a degree which is based on another degree in which the course TIA100 is included.