



CM2010 Sociocultural Perspectives to Innovative Technologies 7.5 credits

Sociokulturella perspektiv på innovativa teknologier

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

Establishment

On 2020-10-09, the Head of School of CBH has decided to establish this official course syllabus to apply from the spring semester 2022 (registration number C-2020-1757).

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Medical Engineering

Specific prerequisites

B.Sc. degree in engineering, social sciences or medical science (e.g. medical science or technology, engineering, applied physics, industrial management, entrepreneurship) or similar.

Relevant documented Engineering or Business experience equivalent to at least B.Sc.

Swedish 3 and English 6.

Language of instruction

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

Intended learning outcomes

After passing the course, the student should have knowledge of:

- Recent initiatives and interdisciplinary research in socio-cultural perspective on technology and innovation at KTH and within other EIT partners
- Differences and similarities between research methodologies in learning how to understand users and the contexts of use
- How new technologies can tackle future challenges in medical healthcare and other empirical contexts
- How to apply the learned concepts and methods to concrete real-world situations of technology use
- Knowledge about the benefits, but also about the barriers and of innovative technologies
- How to produce a study design that involves users in the design process of technology in an innovative manner

Course contents

In this course, the students will learn about the relationship between technology and society, to understand the interplay between technology and social and cultural factors. Successful innovative technologies need to be adopted and accepted by the society, and be relevant to intended user groups. But what makes users choose to engage with a new technology, and what not? This course provides a fundamental basis for designing technological innovations in a socially conscious manner. What are the predominant theories that explain the socio-cultural processes behind technology? How are technologies adopted and used by different user groups? What methods can we use to learn about the user? What social and cultural perspectives should we consider when we design technologies? Why is a critical perspective important for developing innovations?

The course provides insights on the adoption and use of technologies from the social and cultural perspective, to understand user engagement, involvement and diversity. The course offers an important preparation for students interested in creating social impact through the design of innovative technologies. It will offer crucial insights into the fundamental perspectives on technology and social change, provide empirical examples, and teach the most prominent practical methods to understand the role of technology for users and their everyday context.

Examination

- PRO1 - Project assignment, 7.5 credits, grading scale: A, B, C, D, E, FX, 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.

If the course is discontinued, students may request to be examined during the following two academic years.

The examination of this course includes active participation in lectures and seminars, short reaction papers, and a final study proposal.

Attendance is mandatory in 6 of the 8 lectures. + 2 Short reaction papers = 4 ECTS

Final assignment + 2 supervision sessions = 3.5 ECTS

Course assignments: Short reaction papers (one reflecting on the content from 2 lectures (Lecture 1-2), the other one on the content from 3 lectures (Lecture 3- 5) 40%

After Lecture 2, and after Lecture 5, the students are required to write a brief 1-2 page reflection on the content discussed in the preceding lectures.

Final assignment: Study proposal 60 % ;

In the final assignment, each student should select a real-world situation that they find interesting for developing a new innovative technology. In the report, they should begin by introducing their user group (1 page), and continue by discussing relevant perspectives offered in the course (at least 2) on these users (2-4 pages). Drawing on this discussion, the students should select and justify one or more relevant methods to examine these perspectives on the user (2-3 pages). The students should conclude by explaining how the obtained knowledge will help them for the design of their proposed technology (1-2 pages).

The students are required to attend two supervisory seminars to monitor their progress, give and receive feedback. Before each seminar, the students read each others' preliminary proposals and prepare feedback to each other. In the seminar, they present their feedback, which is supervised by one of the course responsible. The students will also obtain feedback by the supervisors. Each seminar will consist in about 4-6 students.

Other requirements for final grade

Approved final assignment, 2 short reaction papers and participation in 6 of the 8 lectures.

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.