DEPARTMENT OF LEARNING, INFORMATICS, MANAGEMENT AND ETHICS

C7F5301, Methods for Design and Formative Evaluation of eHealth Interventions, 3 credits (hec)

Metoder för design och formativ utvärdering av eHälsointerventioner, 3 högskolepoäng

Third-cycle level / Forskarnivå

Approval

This syllabus was approved by the The Committee for Doctoral Education on 2023-12-07, and is valid from spring semester 2024.

Responsible department

Department of Learning, informatics, Management and Ethics, Faculty of Medicine

Prerequisite courses, or equivalent

 No prerequisite courses, or equivalent, demanded for this course.

Purpose & Intended learning outcomes

Purpose

Digital health—eHealth—is a rapidly growing area with high potential to improve health, social and self-care from both a clinical and individual perspective. In research, digitalization creates new possibilities for data collection, but also the ability to increase outreach and to deliver information, support and care to different patients or population groups. There is a great need for innovative digital solutions to improve health, social- or self-care; however, to ensure that an eHealth intervention will be useful in the specific context that it is intended for, it needs to be built upon evidence-based design methods and be carefully tested and evaluated before being implemented. It is these design and evaluation methods that are addressed in this course. The course is designed for doctoral students and postdocs who work on an ongoing eHealth project, or plan/aim to include an eHealth component or digital tool in a research intervention study.

Intended learning outcomes

At the end of this course, the students should be able to:

C7F5301 Methods for Design and Formative Evaluation of eHealth Interventions, 3 higher education credits (hec)
/ Metoder för design och formativ utvärdering av eHälsointerventioner, 3 högskolepoäng
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[Knowledge and understanding]
• understand and discuss the importance of understanding and analyzing healthcare organizations, users' needs and requirements in different contexts
• understand and compare different methods for context-of-use and user needs analyses and their application
• explain, discuss and analyze different evaluation methods and techniques to assess functionality and usability in eHealth interventions

[Skills]
• based on the chosen individual assignment and the student's own research project, apply at least one of the methods related to user needs analysis, requirements specification, or formative evaluation
• critically assess the choice and application of method in another student's individual work

[Attitudes]
• explain and motivate the need of an iterative development process and continuous user involvement

Course content

When studying the effects of eHealth interventions, the results will be highly dependent on how well the developed eHealth intervention or digital tool is designed to suit the intended use and specific context of care. Therefore, this course focuses on human-centered and collaborative methods for the design as well as evidence-based tools for formative evaluation of interventions – to avoid pitfalls in eHealth design.

During the course, students will learn about methods for analyzing health and social care organizations and end user needs, as well as documentation and communication of these and formulation of requirements based on the needs. Specific prerequisites for requirements engineering in health, social and self-care are discussed. Furthermore, the course gives an overview of relevant methods and techniques for evaluation of eHealth solutions in health, social and self-care, and lifestyle interventions. The aim is also to provide an understanding of the role of formative evaluations in the design process.

The course is structured around the design activities outlined in the ISO standard for Human-Centred Design for Interactive Systems (ISO 9241-210:2019), which serves as a framework for discussing different steps in the design process. Various methods and tools will be presented, and the students will work on their own research project by applying at least one of these methods during the course.

Forms of teaching and learning

The course spans over 4 weeks (50%) with lectures, seminars, group discussions and an individual assignment related to the student's own research project. The individual assignment will be supervised by an external researcher with experience in the area.

Language of instruction

The course is given in English

Grading scale

Pass (G) /Fail (U)

Compulsory components & forms of assessment

Compulsory components

Active participation in group discussions and participation in seminars when individual assignments are presented is compulsory. The course examiner assesses if and, in that case, how absence can be compensated. In order to pass the course the student needs to have participated in all compulsory parts, or compensated absence in accordance with the examiner's instructions and to have passed the examination.

Forms of assessment

Examination consists of an individual written assignment, oral presentation of the individual work at the examination seminar, as well as peer review of another student's work. Peer review includes an oral opposition at the examination seminar.

Course literature

Recommended literature:

• Sharp, Helen; Rogers, Yvonne; Preece, Jenny. Interaction design: beyond human-computer interaction 5th ed. Indianapolis, IN: Wiley; 2019, 636 s. ISBN:9781119547259

• Selected scientific articles