



**Karolinska
Institutet**

Course syllabus for

Current Research and Trends in Health Informatics, 15 credits

Aktuella forskningsfrågor och trender inom hälsoinformatik, 15 hp
This course syllabus is valid from autumn 2023.

Course code	5HI024
Course name	Current Research and Trends in Health Informatics
Credits	15 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Health Informatics
Level	AV - Second cycle
Grading scale	Fail (F), fail (Fx), sufficient (E), satisfactory (D), good (C), very good (B) or excellent (A)
Department	Department of Learning, Informatics, Management and Ethics
Decided by	Education committee LIME
Decision date	2023-03-29
Revised by	Education committee LIME
Last revision	2023-08-16
Course syllabus valid from	Autumn 2023

Specific entry requirements

A Bachelor's degree or a professional degree equivalent to a Swedish Bachelor's degree of at least 180 credits in healthcare, biomedicine, medical technology, computer and systems sciences, informatics or the equivalent. And proficiency in English equivalent to English B/English 6.

At least grade (E) for all the courses from year 1 at the master's programme in health informatics.

Objectives

The purpose of this course is to acquaint the students with current research and trends in health informatics. The students will apply relevant methods and tools to analyse the current state of research, identify knowledge gaps, and explore these knowledge gaps further through a practical or theoretical project.

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

Knowledge and understanding

- identify, describe, and discuss current research and trends in health informatics

Skills

- critically analyse and review literature on current trends in health informatics research and practice, and identify knowledge gaps
- critically assess and comment on state-of-the art work in health informatics
- plan and conduct a suitable project based on identified knowledge gaps
- present the results and findings of a practical or theoretical research project in different forms

Attitudes

- reflect on the use of health informatics and what impact the introduction of the analysed trends would have in different contexts
- discuss ethical aspects of current trends in health informatics

Content

Health informatics is a rapidly evolving research area, and the current trends in health informatics changes from year to year. In this course, the students will familiarize themselves with a few current topics or areas of research. The topics will be proposed by experts in the beginning of the course, and the students will then explore the current literature within these topics and plan and conduct projects to further deepen their knowledge within a specific area.

The course is divided into three blocks which will be examined separately.

Literature Review, 5.0 hp

Grading scale: AF

During the first part of the course, current research topics or areas will be presented by experts in inspirational lectures. The students will then individually perform a literature review on one of the presented topics and identify knowledge gaps. The students will also perform peer reviews of each other's literature reviews according to pre-defined assessment criteria.

Project, 5.0 hp

Grading scale: AF

The second part of the course will mainly be performed as a group project where the students work together on a project they propose themselves based on the identified knowledge gaps from the first part of the course. This includes planning the project, conducting it and reporting on the results. The projects can e.g. be focused on information modelling, evaluation of an already existing health information system, or design and implementation of a new health information system. The team will present their results in two ways; (1) as a poster to be presented in a poster session, and (2) as short papers.

Individual exam, 5.0 hp

Grading scale: AF

The third part of the course will consist of an individual take home exam.

Teaching methods

Lectures, seminars, individual and group assignments. Each topic or theme in the course will have a

designated "coach" who will continuously guide the students throughout the course.

Examination

Block 1: Literature Review, 5.0 hp

The examination consists of individually written literature reviews identifying important knowledge gaps. The literature reviews will be graded on a scale of A-F. In addition, each student has to peer review the literature reviews of two other students. Their peer review reports will be graded PASS/FAIL.

Block 2: Project, 5.0 hp

The examination consists of a group assignment presenting their project results as a poster during a mandatory poster session seminar, as well as short papers presenting the project results.

Poster (Pass/fail)

Short paper (A-F)

Block 3: Individual exam, 5.0 hp

The examination consists of an individual take home exam.

Written exam (A-F)

The final grade for the course is a weighted sum of the three blocks, where the first block corresponds to 40% of the final grade, the second block (group assignment) 30%, and the third block (individual take-home exam) 30%.

Compulsory participation

The course includes mandatory sessions marked in the course schedule. The examiner assesses if and, in that case, how absence from compulsory parts can be compensated. Before the student has participated in all compulsory parts or has compensated for absence in accordance with the examiner's instructions, the student's results for the moment/course will not be registered in LADOK. Absence from a compulsory part may result in the student having to wait to compensate until the next time the course is given.

Limitation of number of occasions to write the exam

Students who have not passed the regular examination are entitled to participate in five more examinations. If the student has not passed the exam after four participations he/she is encouraged to visit the study counsellor. If the student has failed six examinations/tests, no additional examination or new admission is provided.

The number of times that the student has participated in one and the same examination is regarded as an examination session. Submission of a blank examination is regarded as an examination. Delayed submission affects the possibility to receive a higher grade than C. An examination for which the student registered but not participated in will not be counted as an examination.

If there are special grounds, or a need for adaptation for a student with a disability, the examiner may decide to deviate from the syllabus's regulations on the examination form, the number of examination opportunities, the possibility of supplementation or exemptions from the compulsory section/s of the course etc. Content and learning outcomes as well as the level of expected skills, knowledge and abilities may not be changed, removed or reduced.

Transitional provisions

Examination will be provided during a time of two years after a possible cancellation of the course. Examination can take place according to an earlier literature list during a time of one year after the date when a major renewal of the literature list has been made.

Other directives

Course evaluation will be carried out in accordance with the guidelines established by the Committee for Higher Education.

The course is given in English.

Literature and other teaching aids

Course literature will be provided online during the course.