Course syllabus for

Medical Technology in Digital Health Transformation, 7.5 credits

Medicinsk teknik i digital transformation inom hälso- och sjukvården, 7.5 hp
This course syllabus is valid from autumn 2021.

Course code	2QA327
Course name	Medical Technology in Digital Health Transformation
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Health Informatics
Level	Second cycle, has only first-cycle course/s as entry requirements
Grading scale	Fail (U) or pass (G)
Department	Department of Clinical Science, Intervention and Technology
Decided by	Education committee CLINTEC
Decision date	2020-12-15
Course syllabus valid from	Autumn 2021

Specific entry requirements

A Bachelor's degree or a professional degree equivalent to a Swedish Bachelor's degree of at least 180 credits in health care, medicine or engineering sciences. And proficiency in English equivalent to English B/English 6.

Objectives

Technological advancements and novel medical applications are a tandem that has driven medical and healthcare all through history until today. Despite that domains like precision medicine, data-driven healthcare, personalized treatments, and use of artificial intelligence in healthcare have bridged over research and academy reaching the space and spreading through public media there is a significant knowledge gap impeding clinicians to take on the offer that digital technologies bring forward.

Aim
The course provides fundamental knowledge about the drivers of healthcare transformation, methods, and technologies in the digital transformation of healthcare. The course aims at preparing students for taking a role in digital health transformation.
The course aims at preparing students for taking roles in digital health transformation within their workplaces. There is a special focus on tools and methods.

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

Knowledge and understanding

- Motivate the need for transformation in the current healthcare system.
- Recognized emerging digital technologies and understand their impact in the workplace
- Demonstrate a basic understanding of the role of digitalization in such a transformation process
- Analyze real cases of digital health transformation

Skills and abilities

- Critically identify the opportunities and barriers for adoption of digital tools in a care environment
- Recognize the contribution of medical technologies in digital health transformation

Assessment ability and attitudes

- Assess the benefits and possible risks of digitization in health care organization and management
- Demonstrate an awareness of the ethical aspects of research and development.
- Demonstrate a solid understanding of data-driven methods for improvement at the hospital

Content

The course introduces students to fundamental knowledge about the drivers of healthcare transformation, methods, and technologies in the digital transformation of healthcare. Including content in Healthcare Transformation, Digitalization of Healthcare, Data-driven methods and tools, and enabling Medical Technology.

Teaching methods

The course uses different types of learning activities, such as online lectures, seminars, interactive sessions live and on-line, study visits, as well as individual project work.

Examination

The course will be examined through individual written assignments, oral presentations, and online quizzes. The oral presentations will be done in a student seminar session, where individual written assignments will be presented. In order to pass the course, the students need to demonstrate fulfilment of all the course outcomes.

In accordance with evidence-based teaching and learning, a formative examination is used throughout the course, so students and teachers can continuously follow and influence the students' fulfillment of the learning outcomes of the course. To pass the course, the student should be able to demonstrate accomplishment of the expected learning outcomes of the course.

Compulsory participation:
On basis of the nature of the subject, there are certain experiences that require active participation such as the course introduction, the final examination, and certain exercises/seminars. The course director assesses if, and in that case how, absence can be compensated. Before the student has participated in all compulsory parts, or compensated absence in accordance with the course director's instructions, the student's results for the course will not be registered in LADOK.

Limitation of the number of occasions for the examination
The student has the right to write the exam six times. If the student has not passed the exam after four participations, he/she is encouraged to visit the study advisor. 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. An examination for which the student registered but not participated will not be counted as an examination.

Transitional provisions

The examination will be provided during a time of two years after a possible cancellation of the course. The 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.

Literature and other teaching aids

Articles and compendium will be handed out.