Course syllabus for

Clinical decision support, 5 credits

Kliniskt beslutstöd, 5 hp
This course has been cancelled, for further information see Transitional provisions in the last version of the syllabus.
Please note that the course syllabus is available in the following versions:
Spring2011 , Spring2012

Course code	4HI010
Course name	Clinical decision support
Credits	5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Health Informatics
Level	AV - Second cycle
Grading scale	Excellent, Very good, Good, Satisfactory, Sufficient, Fail, Fail
Department	Department of Learning, Informatics, Management and Ethics
Decided by	Programnämnd 5
Decision date	2010-11-09
Revised by	Education committee LIME
Last revision	2019-11-22
Course syllabus valid from	Spring 2012

Specific entry requirements

Bachelor of science or professional qualification of at least 180 credits within health care, biomedicine, technology, data and software engineering or informatics. Furthermore, knowledge in English equivalent to English B (with at least the Pass grade) is required.

Objectives

The general aim of the course is that the students should acquire sufficient knowledge and skills to be able to participate in the requirements engineering, the development, the introduction, the improvement and the evaluation of methods that provide clinical decision support actively and explain how these methods can be implemented in information system while considering interoperational, organizational, ethical and legal aspects.

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

Knowledge and understanding
- explain how the introduction of clinical decision support can be used to achieve an improved patient safety and a more evidence-based care,

- explain, illustrate and categorise the main types of clinical decision support systems,
- explain methods to create or generate medical knowledge that can be introduced in a clinical decision support system based on clinical expert knowledge, evidence-based clinical guidelines and medical databases, or by means of machine learning techniques,
- explain methods to represent medical knowledge in standardised models,
- explain the role of the medical knowledge and the clinical decision support as a part in an organisation knowledge management.

Skills
- analyse the need of decision support,
- choose and apply methods to create medical knowledge for an identified clinical problem,
- choose and apply a standardised method to represent medical knowledge for integration in decision support systems,
- analyse and suggest methodology to facilitate integration with other information system.

Values and attitudes
- evaluate the usefulness and the desirability of introducing a new clinical decision support system in a given clinical context on the basis of analysis of needs, work flows, decision-making processes and ethical and legal aspects.

Content

- Various types of clinical decision support systems.
- Case studies.
- Evidence-based medicine.
- Methods to create or generate medical knowledge: Cognitive task analysis, analysis of clinical guidelines, statistical and machine learning techniques
- Knowledge representation: rules, computerised clinical guidelines, ontologies and information models.
- Organizational and social challenges.
- Ethical and legal aspects.
- "Knowledge management" in health care organisations.

Teaching methods

The course will be given in a number of blocks where different themes are treated.
The blocks are structured similarly: Initially, lectures that introduce new theory are given. In addition, assignments with study questions are handed out. Demonstrations of clinical decision support systems may occur. The block ends with mandatory handing in of assignments and participation in seminars where the study questions are discussed.

Examination

The assignments will be assessed with AF. Performance during the seminars will be assessed with Fail/Pass. To obtain Pass requires active participation where the student demonstrates that he / she has understood and analyzed / reflected on all the studying questions. The final grade consists of a mean value of the assessments of individual assignments. A final grade is obtained only when the student has obtained Pass in all seminars.

Compulsary participation
Participation in the seminars is compulsory. 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/respective part will not be registered in LADOK.

Limitation of number of occasions to write the exam:
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 in will not be counted as an examination.

Transitional provisions

The course is closed.

Other directives

Course evaluation will be carried out in accordance with the guidelines established by the Board of Education.

The course is given in English.

Literature and other teaching aids

Clinical decision support : the road ahead

Greenes, Robert A.

Amsterdam : Elsevier Academic Press, cop. 2007 - xv, 581 p.
ISBN:978-0-12-369377-8 (alk. paper) LIBRIS-ID:10410159
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