Course syllabus for

Degree project in Medicine, 30 credits

Examensarbete i medicin, 30 hp
This course syllabus is valid from autumn 2012.
Please note that the course syllabus is available in the following versions:
Autumn2010 , Spring2011 , Autumn2011 , Spring2012 , Autumn2012 , Spring2013 , Autumn2013 , Autumn2014 , Autumn2015 , Spring2016 , Spring2017 , Autumn2017 , Autumn2018 , Autumn2019 , Spring2020 , Autumn2020 , Spring2023 , Autumn2024

Course code	2LK028
Course name	Degree project in Medicine
Credits	30 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Medicine
Level	AV - Second cycle
Grading scale	Pass, Fail
Department	Department of Medical Epidemiology and Biostatistics
Decided by	Programnämnd 2
Decision date	2010-03-11
Revised by	Programnämnd 2
Last revision	2012-04-24
Course syllabus valid from	Autumn 2012

Specific entry requirements

Passed all courses in terms 1-4 and at least 30 credits from terms 5-6, of which at least one elective.

Objectives

The learning outcomes are related to the overarching learning outcomes for the whole medical program. Learning outcomes for knowledge and understanding are tiered according to the SOLO-taxonomy: S1) simple (e.g. know about, identify), S2) complex (e.g., explain, describe), S3) related (e.g. analyse, relate to), and S4) enlarged (e.g., theorise, analyse). Practical skills are tiered according to Miller's taxonomy: M1) knows, M2) knows how to perform, M3) is able to demonstrate, and M4) is able to perform professionally.

For knowledge and understanding
After the course the student should be able:
• Explain and discuss how, in an ethical manner, collect, handle and describe a complex material with relevance for the theoretical background of the scientific project and its hypothesis (S3).

• Document scientific work in a systematically organized report, in which the ability to describe the scientific work and put it in its theoretical context also should be evident (S3).

For skills

After the course the student should be able to:
• Plan, structure, implement and analyse a scientific work independently (M3).
• Present and defend a delimited scientific work orally and in writing as well as place it in its theoretical context (M3).
• Review scientific work critically, as well as dispute on another student's report objectively in a scientific manner (M3).
• Integrate medical knowledge, as well as ethical and psychological aspects in meeting with other professional groups and when meeting patients (Professional development) (M3).
• Reflect on professional development with the help of a structured self-assessment (Professional development) (M3).

Attitude
After the course the student should be able to:
• Show an understanding of scientific methods, the scientific process and the relevance of research ethics.
• Understand the importance of cooperation and learning from others in connection with planning, implementation and interpretation of own studies and inquiries.

Content

During the degree project course, which aims to give valuable experience within both science and research, the student should apply and deepen their prior knowledge, skills and attitudes as well as new knowledge from the project. The degree project should be about either research or development, according to the program goals.

Professional development:
A day's workshop in professional development will address the physician's professional attitude and responsibility in meeting with other professionals and with the patient and also includes a self-evaluation by the student to be discussed with the mentor.

The course is carried out in three phases.

Phase 1: Planning
Project planning will be done under supervision and a work plan must be presented in writing and orally.

Phase 2: Practical work with a half-time report
The practical work will be done under supervision and results (half-time report) will be presented in writing and orally.

Phase 3: Reporting
In the final phase of the course, the student will write a report under supervision, a report following KI's guidelines for degree projects, and present the results of the project, partly orally, and partly in a written report. Project reporting includes also to dispute on another student's degree report.

Teaching methods

The degree project is carried out as an individual, independent work under supervision of a supervisor with a PhD with the competence and ability to tutor. If the degree project is carried out outside Karolinska Institutet (in Sweden or abroad) each student must have a responsible supervisor at Karolinska Institutet, in addition to a supervisor at the place where the project is actually carried out. The supervision must be adapted to the needs of the student and the project. Supervision can be done individually or in a group. The teaching is based on planning, research and developmental work, a written report, oral presentations, presentation of the work plan and half-time report at obligatory

seminars, disputation and participation in other student's examination seminars. In addition, the student must seek and extract relevant information from the literature within the field of the degree project. Course literature and other materials to be used are decided in discussion with the supervisor for each project. The need for ethical vetting should be discussed with the supervisor according to KI's guidelines. The supervisor is also responsible for sending in the ethical application if necessary. The course starts with an obligatory roll-call.

For degree projects done abroad the following applies:
- The student must have a main supervisor at KI who has a formal collaboration with the foreign department.
- The student must have the work plan approved in a meeting with the coordinators and the KI supervisor before departure.

Examination

The examination is carried out in several separate steps.

Phase 1: Planning
The work plan must contain a description of the degree project. This should include background of the project, the research question, plan for the practical work including materials and methods, ethical considerations, time plan, and references that the student should acquire. The student must present the work plan orally and in writing at a planning meeting where the coordinator and the supervisor participate and later in writing and orally at a seminar.

Phase 2: Practical work on the half-time report
The student must present both parts of the written report (part of the introduction and materials and methods), and the practical part of the degree project in a progress and activity report that must be approved at a seminar. Here the time plan must be presented and it be made clear what the student's own role in the work is.

Phase 3: Presentation
This phase is examined by 1) a written report including a written reflection, 2) an oral presentation at the examination seminar with another student as an opponent, 3) an opposition of another student's degree project. Assessment is carried out in accordance with criteria established by KI.

Mandatory participation: the planning meeting, the planning seminar, the half-time seminar, the PU workshop and four examination seminars in addition to the student's own seminar. Absence from compulsory parts must be compensated according to the course management's instructions.

Limitation of the number of examination or workshop opportunities:
Students who do not pass the regular examination are entitled to participate in a further five occasions. If the student has completed six failed exams/tests they are not given any additional examination. As an examination is counted each occasion when the student has participated in an examination of the same project. The examination session at which the student has registered but not attended is not counted as an examination session.

Transitional provisions

For courses that have been discontinued or have undergone major changes, at least two additional examinations (excluding the regular examination) on the previous contents over a period of one year from the date the changes occurred.

Other directives

The examiner may immediately suspend a student's work-based training (VFU) or equivalent if the student demonstrates such serious deficiencies in knowledge, skills or attitudes as to jeopardize patient safety or patient confidence in the health care. When a placement is interrupted in this way it means that

the student fails the current examination and that clinical placement is used up.

Students who fail the practical training (VFU)/equivalent because the student has demonstrated serious deficiencies in knowledge, skills or attitudes that may jeopardize patient safety or patient confidence in the health care, are eligible for a new placement-time only when an individual action plan has been completed.

The course evaluation will be conducted according to guidelines established by the Board of Education.

Literature and other teaching aids

Fletcher, Robert H.; Fletcher, Suzanne W.

Clinical epidemiology : the essentials

4. ed. : Philadelphia, Pa. : Lippincott Williams & Wilkins, 2005 - xv, 252 s.
ISBN:0-7817-5215-9 (alk. paper) LIBRIS-ID:9784446
Library search

Greenhalgh, Trisha

How to read a paper : the basics of evidence based medicine

London : BMJ, 1997 - xvii, 196 s.
ISBN:0-7279-1139-2 (hft.) ; No price : Formerly CIP LIBRIS-ID:8302993
Library search

Holme, Idar Magne; Solvang, Bernt Krohn; Nilsson, Björn

Forskningsmetodik : om kvalitativa och kvantitativa metoder

2., [rev. och utök.] uppl. : Lund : Studentlitteratur, 1997 - 360 s.
ISBN:978-91-44-00211-8 LIBRIS-ID:8352553
Library search

Wallén, Göran

Vetenskapsteori och forskningsmetodik

Lund : Studentlitteratur, 1996 - 151 sidor
ISBN:91-44-36652-1
Library search

Björk, Jonas

Praktisk statistik för medicin och hälsa

1. uppl. : Stockholm : Liber, 2011 - 327 s.
ISBN:91-47-10343-4 (korr.) LIBRIS-ID:12055810
Library search

Backman, Jarl

Rapporter och uppsatser

Lund : Studentlitteratur, 1998 - .213 sidor
ISBN:978-91-44-00471-4
Library search

Hansson, Emma; Freccero, Carolin

Att skriva medicinsk vetenskap : en handbok

1. uppl. : Lund : Studentlitteratur, 2012 - 191 s.
ISBN:978-91-44-07319-4 LIBRIS-ID:12539238
Library search

Oshima, Alice; Hogue, Ann

Writing academic English

4. ed. : White Plains, N.Y. : Pearson Longman, 2006 - xi, 337 s.
ISBN:978-0-13-152359-3 LIBRIS-ID:10190093
Library search

Emanuelsson, C

Konsten att skriva en vetenskaplig rapport. Handledning för skriftlig rapport av examensarbete i biokemi

Avdelningen för biokemi Lunds Universitet, 1999

Rienecker, Lotte; Stray Jørgensen, Peter; Hedelund, Lis

Att skriva en bra uppsats

Lagerhammar, Ann

2., [rev. och uppdaterade] uppl. : Malmö : Liber, 2008 - 416 s.
ISBN:978-91-47-08767-9 LIBRIS-ID:10913411
URL: Omslagsbild
Library search

Svenska skrivregler

3., [utök.] utg. : Stockholm : Liber, 2008 - 263, [1] s.
ISBN:978-91-47-08460-9 LIBRIS-ID:10935499
URL: http://www.liber.se/productimage/large/4708460o.jpg
Library search