



Course syllabus for

## **Degree project in Medicine, 30 credits**

Examensarbete i medicin, 30 hp

This course syllabus is valid from spring 2013.

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	2012-10-25
Course syllabus valid from	Spring 2013

### **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 overall aim of the course is to provide students with advanced knowledge by independently and individually under supervision planning and carrying out a research-oriented degree project of 30 credits within the main field of medicine. Students will also attain theoretical and practical understanding of the research process and develop a scientific approach. The learning outcomes are related to the overarching learning outcomes for the whole medical program. The scientific basis for the main field medicine involves human structure and functions in health and disease, disease prevention and the diagnosis and treatment of diseases and injuries.

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) extended (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.

#### Knowledge and understanding

After the course the student should be able to:

- Show theoretical knowledge and understanding of the scientific basis of the chosen area of medical research;
- Show an understanding of the fields current research and development

#### Skills

After the course the student should be able to:

- At a high level of independence plan, structure, carry out and analyse a scientific project within the field of medicine (M3).
- Explain and discuss how to, in an ethical manner, collect, handle and describe a complex material with relevance for the theoretical background of the scientific project and its hypothesis (M3).
- At a high level of independence, document scientific work in a systematically organized report, in which the ability to describe the scientific work and to put it in its theoretical context should be evident (M3).
- Orally present and defend a delimited scientific work and place it within its theoretical context (M3).
- Critically review scientific work, and to objectively and in a scientific manner review and discuss another student's report (M3).
- Integrate medical knowledge, ethical and psychological aspects in communication with other professional groups and when seeing 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.
- Show ability to identify own need for further knowledge

## Content

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

#### Professional development:

A one-day 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 will present the results of the project, both orally and in a written report. Project reporting also includes reviewing and discussing another student's degree project report.

## Teaching methods

The degree project is carried out individually and independently 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) the student must have a main responsible supervisor at Karolinska Institutet, in addition to the local supervisor where the project is actually carried out. The supervision must be adapted to the needs of the student and the project. Supervision can be individual or in a group. The teaching relates to planning, research and developmental work, a written report, oral presentations, presentation of the work plan and half-time report at mandatory 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 agreement with the supervisor. The need for ethical vetting should be discussed with the supervisor according to KI's guidelines. The supervisor is also responsible for providing an application for ethical vetting 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.
- Before departure, the student must have the work plan approved in a meeting with the coordinators and the KI supervisor.

The course director assesses whether, and if so, how, absence from compulsory parts can be compensated. The final study results will not be reported until students have participated in all compulsory activities or have compensated absence according to the course management's instructions.

Absence from compulsory activities may mean that students cannot compensate until the next time the course is offered.

## 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 the theoretical background to the project, the aim or research question, a work plan 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

For the half-time seminar, the student must present a first version of the report's introduction and materials and methods, and a progress and activity report on the practical work. These reports must be approved at a seminar. A time plan for the remainder of the course must be presented and it should clear what the student's own role in the work is.

### Phase 3: Presentation

This phase is examined based on 1) a written report including a written reflection, 2) an oral presentation at the examination seminar with another student as an opponent, 3) a disputation (review and discussion) 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 examination seminar. Absence from these activities must be compensated for 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 examination on five more occasions. Students who have undergone six failed exams/tests are not given any additional examination. Each time the student participates in an examination of the same project counts as one examination. An examination session to which the student has registered but not attended is not counted.

## 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 are provided 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 the clinical placement is used up.

Students who fail the practical training (VFU)/equivalent due to 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 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

### Mandatory literature

*Möller, R; Shoshan, M*

#### **Studentinstruktion Examensarbete i medicin**

Institutionen för medicinsk epidemiologi och biostatistik, 2013

*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

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### Course literature and other course material

#### Recommended literature

Each student will choose the rest of the course literature after discussion with the supervisor. However, we would like to recommend the following books:

*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

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*Greenhalgh, Trisha*

#### **Att läsa vetenskapliga artiklar och rapporter : grunden för en evidensbaserad vård**

1. uppl. : Lund : Studentlitteratur, 2012 - 309 s.

ISBN:978-91-44-07271-5 LIBRIS-ID:12543003

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*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

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*Wallén, Göran*

**Vetenskapsteori och forskningsmetodik**

Lund : Studentlitteratur, 1996 - 151 sidor

ISBN:91-44-36652-1

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*Björk, Jonas*

**Praktisk statistik för medicin och hälsa**

1. uppl. : Stockholm : Liber, 2011 - 327 s.

ISBN:91-47-10343-4 (korr.) LIBRIS-ID:12055810

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*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

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**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>

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