Course syllabus for

General Principles for Scientific Work, 15 credits

Allmänvetenskaplig kurs, 15 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:
Autumn2013 , Autumn2015

Course code	3KL013
Course name	General Principles for Scientific Work
Credits	15 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Clinical Medical Science
Level	AV - Second cycle
Grading scale	Pass with distinction, Pass, Fail
Department	Department of Neurobiology, Care Sciences and Society
Decided by	Programnämnd 9
Decision date	2013-09-09
Revised by	Education committee NVS
Last revision	2020-02-14
Course syllabus valid from	Autumn 2015

Specific entry requirements

A Bachelor of at least 180 credits (120 credit points) within health care. Or professional qualification of at least 180 credits (120 credits) within health care, Bachelor of Science in Social Work or a sports teacher degree of at least 180 credits (120 credits) and at least 15 credits (10 credits) in scientific theory and method.

Objectives

The aim of the course is that the student should have acquired advanced knowledge and understanding in scientific theory and method, research ethics, quantitative and qualitative research methods and their application in research within the interdisciplinary field of clinical medical science. Furthermore, the aim is to acquire such ability and skills that is required to take part of and participate in research and development with an advanced scientific, critically reflective and research-ethical attitude.

Learning outcomes

On completion of the course, the student should be able to independently explain scientific and epistemological concepts and to relate to interdisciplinary domains that may be included in clinical medical science, and analyse research-ethical basic principles in relation to his/her own ethical attitudes and identify research-ethical aspects in scientific literature and research, be able to identify and formulate scientific issues in his/her own as well as other interdisciplinary domains within clinical medical science, explain and argue advantages and disadvantages and differences and similarities in different quantitative and qualitative research methods/designs, explain and argue advantages and disadvantages as well as differences/similarities with different quantitative and qualitative data collection and analysis methods, evaluate scientific literature in quantitative and qualitative research, apply quantitative data collection methods and be able to describe and analyse collected data with different statistical methods, apply qualitative data collection methods and be able to categorise describe and analyse collected data, integrate knowledge in science theory, research ethics, research methodology and critical review in a written general scientific report based on his/her own scientific research question within his/her own interdisciplinary field, and demonstrate ability to orally sum up and discuss his/her own and others' reports

Content

Main contents
- The foundations of the theory of science and epistemology
- Research ethics
- quantitative research methodology, formulation of research questions, research design, data collection methods and statistical analytical methods
- qualitative research orientation/methodology including the formulation of research questions and research design, data collection and analysis methods
- critical examination of scientific literature

Teaching methods

The set-up of the course is based on introductory lectures, student-activating teaching and working methods based on supervision and group assignments with peer learning, i. e. students learning from each another, and seminars with discussions and feedback. The course is organised as modified distance education, with course meetings once in a month.

The students are divided into interprofessional study groups in order to develop their own and others' skills. For each study group, there are responsible teachers that function as a resource and participate in follow-ups and examinations Between the course meetings, the study groups have their own minuted meetings, where the group process and the solutions of the assignments are shown. In most of the course meetings, one or several parts are introduced that are followed up in the next course meeting.

Varying teaching and working methods will be used. Student-activating teaching and working methods, with problem-oriented assignments in a study guide, where individual reflection and peer learning as well as supervision from teachers responsible for the study group constitute essential features. The students work individually and/or in groups based on the basis of the study guide. To facilitate the communication within and between study groups, and with the teachers, a web-based teaching platform will be used.

Examination

The examination methods are both formative, i. e. evaluation during the course, as well as summative, i. e. evaluation at the end of the course.

A Pass grade in the course requires a pass in the individual assignment and all group assignments, and that the individual examination assignment has obtained the Pass grade. The grade Pass with distinction in the course requires a Pass grade in the individual assignment and all group assignments, and that the

individual examination assignment has obtained the grade Pass with distinction.

To pass the individual assignment, it is required that the student participates in the follow-up of the assignment, actively, based on a submitted individual written reflection. To pass the group assignments, it is required that the student has participated actively in solving the task and participated in the written as well as oral presentation and oral discussion of the assignment.

The individual assignment is introduced in connection with the admission to the course before the start of the course, Group assignments are described in the study guide. The individual examination assignment consists of a written general scientific report based on a scientific clinical research question. The report should cover all learning outcomes of the course and be presented and discussed at a seminar, with the teachers responsible for the study group and fellow students present. The examining teacher grades the written report before the seminar, and the final grade also includes assessment of the oral presentation and the discussion.

A Pass grade in the course requires attendance at all seminars and group presentations and active participation in the group assignments. The group assignments are based on the lectures. In case of absence, the student may make a written complementary assignment.

If a student has failed the examination assignment, he/she is entitled to a total of six examinations to achieve a Pass grade.

Transitional provisions

The course has been cancelled and was offered for the last time in the autumn semester of 2015. Examination will be provided until the spring semester of 2021 for students who have not completed the course

Other directives

Course evaluation is carried out according to the guidelines established by the Board of Education and based on established evaluation routines in the programme.

Literature and other teaching aids

Altman, Douglas G.

Practical statistics for medical research

London : Chapman and Hall, 1991 - xii, 611 s.
ISBN:0-412-38620-8 (hft.) LIBRIS-ID:8286190
Library search

Bogdan, R; Biklen, S

Qualitative research for education - An introduction to theories and methods.

Allyn & Bacon, 2006 - 304 pp
ISBN:9780205512256
Library search

Borg, E; Westerlund, J

Statistik för beteendevetare

1. uppl. : Stockholm : Liber, 2006 - 456 s.
ISBN:91-47-05335-6 LIBRIS-ID:10162703
URL: http://www2.liber.se/bilder/omslag/100/4705335o.jpg
Library search

Domholdt, E

Rehabilitation research : principles and applications

3. ed. : St. Louis, Mo. : Elsevier Saunders, cop. 2005 - xvi, 576 s.
ISBN:0-7216-0029-8 LIBRIS-ID:9503808
Library search

Føllesdal, Dagfinn; Walløe, Lars; Elster, Jon

Argumentationsteori, språk och vetenskapsfilosofi

3. uppl. : Stockholm : Thales, 2001 - 428 s.
ISBN:91-7235-013-X (inb.) LIBRIS-ID:8372802
Library search

Granskär, Monica; Höglund-Nielsen, Birgitta

Tillämpad kvalitativ forskning inom hälso- och sjukvård

1. uppl. : Lund : Studentlitteratur, 2008 - 210 s.
ISBN:978-91-44-00155-5 LIBRIS-ID:10654117
Library search

Gustafsson, B; Hermerén, G; Petersson, B

Vad är god forskningssed

Vetenskapsrådets Rapport, 2005:1 - gratis nätversion – ladda ner på www.vr.se

Kvale, S

Interviews – An introduction to qualitative research interviewing

Sage Publications, LTD, 2007
ISBN:9780761925422
Library search

Polit, DF; Beck, CT

Nursing Research. Principles and Methods

7th ed : Philadelphia : Williams and Wilkins, 2003 - 784
ISBN:9780781737357
Library search

Thurén, Torsten

Vetenskapsteori för nybörjare

2., [omarb.] uppl. : Stockholm : Liber, 2007 - 184 s.
ISBN:978-91-47-08651-1 LIBRIS-ID:10372764
Library search