Scientific Methodology, 5.0 credits

Forskningsmetodik för doktorander, 5.0 hp

Third-cycle education course

8FO0118

Department of Health, Medicine and Caring Sciences

Valid from: First half-year 2024

Approved by
The Research and PhD studies Committee

Approved
2020-05-04

Registration number
DNR LIU-2019-01975

Entry requirements

Entry requirement for studies on third-cycle education courses

- second-cycle degree,
- 240 credits in required courses, including at least 60 second-cycle credits, or
- acquisition of equivalent knowledge in some other manner

Learning outcomes

By the end of the course the students will be able to:

Knowledge and understanding

- Describe different research designs and sampling strategies used in qualitative and quantitative research and discuss the strengths and weaknesses of results generated by these
- Have awareness about reporting guidelines for research studies and knowledge about their application

Competence and skills

- Formulate, present and discuss appropriate study protocols, including hypotheses, design, sample selection, and data collection and data analysis
- Present her/his own research project in the light of relevant quantitative and qualitative research methodologies

Judgement and approach

- Reflect on the consequences of the choice of methods for scientific investigation
- Discuss the foundations for scientific methodologies based on general philosophy of science
- Critically reflect on methods to ensure validity, reliability or trustworhiness
- Critically reflect on possible advantages or disadvantages in choosing alternative scientific methodologies for his/her own research

Contents

- The philosophy of science
- Research designs
- Qualitative and mixed methodologies
- Quantitative methodologies
- Data collection
- Systematic reviews
- Registry data and open data
- Writing, presenting, defending and evaluating scientific reports

Educational methods

The pedagogical approach applied at the Faculty of Medical and Health Sciences is student centered, problem based learning (PBL). The student takes responsibility for his/her own learning, and seeks and evaluates information and knowledge based on own queries and formulated problems. The role of the teacher is to guide and support the students. Educational methods applied in this course are lectures, tutorial groups, homework assignments and seminars.

Examination

Group work and seminars are mandatory. If a student has been absent from group work and/or seminars a complementary assignment has to be completed before the examination seminar. The examination task consists of an individually written report, oral presentation at a seminar and critical appraisal of another student's report. Participation in at least half a day during the examination seminar is mandatory.
Students who fail are offered one re-examination occasion in close connection to the course. After that participation in a coming course examination is offered. The re-examination should be equally comprehensive as the ordinary examination.
Change of examiner
Students who have failed the course or part of the course twice are entitled to request another examiner for the following examination occasion, unless there are special reasons to the contrary

Grading

Two-grade scale

Course literature

The course coordinator provides a list of relevant literature before the start of the course.

General information

The course is planned and carried out according to what is stated in this syllabus. Course evaluation, analysis and suggestions for improvement should be fed back to the Research and PhD studies Committee (FUN) by the course coordinator.
If the course is withdrawn or is subject to major changes, examination according to this syllabus is normally offered at three occasions within/in close connection to the two following semesters.