



**Karolinska  
Institutet**

Course syllabus for

# **Scientific Theory and Research Methods, 7.5 credits**

Vetenskaplig teori och metod i omvårdnad, 7.5 hp

This course syllabus is valid from autumn 2018.

Please note that the course syllabus is available in the following versions:

Autumn2012 , Autumn2014 , Autumn2015 , Spring2016 , Autumn2017 , Spring2018 , Autumn2018 , Spring2022 , Autumn2022 , Spring2024 , Spring2025

Course code	2AM018
Course name	Scientific Theory and Research Methods
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Nursing
Level	AV - Second cycle
Grading scale	Pass, Fail
Department	Department of Clinical Science and Education, Södersjukhuset
Decided by	Programnämnd 9
Decision date	2012-05-29
Revised by	Education committee NVS
Last revision	2018-03-16
Course syllabus valid from	Autumn 2018

## **Specific entry requirements**

Qualification as a nurse certified by the National Board of Health and Welfare

## **Objectives**

The main aim of the course is that the student should have advanced his knowledge and his understanding in scientific theory, method and research ethics and in application of research in nursing with a specialisation in the expert area. Furthermore, the student should have acquired an advanced scientific, critically reflective and research-ethical attitude.

**Module 1: Scientific theory and method (3.5 credits)** After completing the course, the student should be able to:

- Account for and integrate science and knowledge concept related to the main field of study nursing with a specialisation in the expert area

- Review and evaluate scientific results of quantitative and qualitative research with relevance for nursing within the expert area critically.
- Apply the research process and good academic custom and reference management at the scientific writing.

**Module 2: Research design (4 credits)** After completing the course, the student should be able to:

- Based on an own formulated aim and issues, assess and analyze strengths and weaknesses with different research methods. Apply and evaluate research-ethical aspects within the expert area
- Demonstrate the ability to identify his need of additional knowledge within scientific theory and method
- Demonstrate an understanding of the possibilities and limitations of the science, its role in the society and the responsibility of people for how it is used.

## Content

The course consists of two parts:

### Scientific theory and method, 3.5 hp

Grading scale: GU

- scientific methods in nursing research related to the expert area
- assessment and values of qualitative and quantitative nursing research (induction, deduction, validity, reliability, transferability, reliability)
- research designs within quantitative (experimental and not experimental research design) and qualitative research and systematic literature studies.
- good academic custom and reference management at scientific writing

### Research design, 4.0 hp

Grading scale: GU

- research-ethical principles
- designs and methods for selection (strategic, randomized) data collection (questionnaire, interviews, observations) and analysis (descriptive and analytical statistics; describing and interpreting qualitative analysis) related to aim and issues

## Teaching methods

The teaching is based on a problem-oriented and collaborative approach to learning in which the tasks provide opportunities for the student to take active responsibility for their learning. The used teaching methods are individual assignments, group discussions, seminars and lectures. Participation in seminars is compulsory. Teaching support is given via web-based learning management system.

The education is carried out on 3/4 pace equivalent to 32 hours a week.

The number of physical meetings is limited to at most 3 days for courses on 3/4 pace. Other time is carry out the studies via web-based learning management system. It is required, because you have basic computer science and access to computer with Internet connection. The course coordinator decides if and how absence from training should be compensated.

Before the student has participated in compulsory parts or compensated absence in accordance with the instructions of the course coordinator, the student's results are not registered for the course/parts in LADOK (student registry). Absence from a compulsory course element could mean that the student can not retake the element until the next time the course is offered.

# Examination

**Module 1: Scientific theory and method (3.5 credits)** Nursing with a specialisation in the expert area, theory of knowledge and research methodology and critical review of scientific literature with a specialisation in the expert area are examined through individual reflection log.

**Module 2: Research design (4 credits)** The examination consists of written individual writing project plan for a scientific orientation degree project within the main field of study nursing and with specialisation within the expert area. And participation in compulsory seminar and written individual examination.

Limitation of the number of examination sessions: Students who do not pass a regular examination are entitled to re-sit the examination on five more occasions. If the student has failed six examinations, no additional examination is given. Each occasion the student participates in the same test counts as an examination. In case a student is registered for an examination but does not attend, this is not regarded as an examination. Submission of a blank exam paper is regarded as an examination. An electronic examination that has been opened via the learning management system counts as an examination session even if the examination is not submitted. Late submissions of examinations are not accepted. Students who have not submitted on time, are referred to re-examination.

Students without approved results after three examinations can be offered to retake the course or parts of it once more; subject to availability.

## Other directives

Course evaluation takes place in accordance with the guidelines established by the Board of Education.

## Literature and other teaching aids

### **Vetenskaplig teori och metod : från idé till examination inom omvårdnad**

*Henricson, Maria*

Andra upplagan : Lund : Studentlitteratur AB, 2017 - 510 sidor

ISBN:978-91-44-11328-9 LIBRIS-ID:20848026

[Library search](#)

*Polit, Denise F.; Beck, Cheryl Tatano*

### **Nursing research : generating and assessing evidence for nursing practice**

10th ed. : Philadelphia : Wolters Kluwer, 2016 - xiv, 784 s.

ISBN:9781496300232 LIBRIS-ID:19245684

[Library search](#)

*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

[Library search](#)

*Ejlertsson, Göran*

### **Statistik för hälsovetenskaperna**

2., moderniserade och utök. uppl. : Lund : Studentlitteratur, 2012 - 303 s.

ISBN:978-91-44-07048-3 LIBRIS-ID:13374003

URL: [Övningsmaterial](#)

[Library search](#)*Johansson, Lars-Göran***Introduktion till vetenskapsteorin**

3., [utök.] uppl. : Stockholm : Thales, 2011 - 272 s.

ISBN:9789172350823 LIBRIS-ID:12129388

[Library search](#)**Teoretiska grunder för vårdande***Arman, Maria; Dahlberg, Karin; Ekebergh, Margaretha*

1. uppl. : Stockholm : Liber, 2015 - 307 s.

ISBN:9789147114115 LIBRIS-ID:18031934

[Library search](#)*Hulley, Stephen B***Designing clinical research**

2013

LIBRIS-ID:15213039

*Patton, Michael Quinn***Qualitative research & evaluation methods**

3. ed. : London : SAGE, cop. 2002 - xxiv, 598, [65] s.

ISBN:0-7619-1971-6 ; £40.00 LIBRIS-ID:5601820

[Library search](#)*Ludvigsson, Jonas F.***Att börja forska - inom medicin, bio- och vårdvetenskap Att börja forska**

Lund : Studentlitteratur, 2002 - 352 s.

ISBN:91-44-01644-1 LIBRIS-ID:8402720

[Library search](#)**Sjuksköterskans kärnkompetenser***Leksell, Janeth; Lepp, Margret*

1. uppl. : Stockholm : Liber, 2013 - 345 s.

ISBN:9789147105687 LIBRIS-ID:14613796

[Library search](#)**Vårdvetenskapliga begrepp i teori och praktik***Wiklund Gustin, Lena; Bergbom, Ingegerd*

Andra upplagan : Lund : Studentlitteratur AB, 2017 - 468 sidor

ISBN:978-91-44-11243-5 LIBRIS-ID:20900395

[Library search](#)*Bettany-Saltikov, Josette; McSherry, Robert***How to do a systematic literature review in nursing : a step-by-step guide**

2. ed. : London : McGraw-Hill Education/Open University Press, 2016 - xv, 229 p.

ISBN:9780335263806 LIBRIS-ID:19466808

[Library search](#)