



**Karolinska
Institutet**

Course syllabus for

Scientific method, 7.5 credits

Vetenskaplig metod, 7.5 hp

This course syllabus is valid from autumn 2015.

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

[Autumn2013](#) , [Autumn2015](#) , [Spring2018](#) , [Spring2019](#) , [Spring2020](#) , [Spring2024](#) , [Spring2025](#)

Course code	3AH014
Course name	Scientific method
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Work and Health
Level	AV - Second cycle
Grading scale	Pass with distinction, Pass, Fail
Department	Institute of Environmental Medicine
Decided by	Programnämnd 5
Decision date	2013-03-18
Revised by	Programme Committee 5
Last revision	2015-03-20
Course syllabus valid from	Autumn 2015

Specific entry requirements

Profession - or Bachelor's degree of at least 180 credits of which at least the 120hp within behavioural science subjects; or Occupational therapist - or physiotherapy degree of 180 HE credits or Bachelor's degree in occupational therapy or physiotherapy; or Nurse degree of 180 HE credits or Bachelor's degree in nursing.

English and Swedish language skills equivalent to English A/English 6 and Swedish B/Swedish 3 at Swedish upper secondary school are also required.

Objectives

On completion of the course, the student should be able to:

- identify, formulate, and problematise scientific issues of relevance to the disciplinary domain Work and Health.
- explain scientific theoretical concepts and their usage in relation to the disciplinary domain Work and Health.
- explain the differences between quantitative and qualitative research methods concerning research

design, data collection and analytical methods; identify the advantages and disadvantages of the different research approaches; and understand how they supplement one another.

- critically review and evaluate scientific literature and research within quantitative and qualitative research.
- explain and reflect critically on research-ethical basic principles.

Content

Main contents:

- Basic scientific theoretical knowledge.
- formulation of research questions.
- research ethics.
- quantitative research methodology including formulation of research questions, research design, data collection methods and statistical analytical methods.
- qualitative research methodology including formulation of research questions, research design, data collection - and analytical methods.
- critical review of scientific literature.

Teaching methods

The teaching consists of a combination of distance education and scheduled campus teaching. The tuition forms at the campus teaching include lectures, seminars and group assignments. The distance education includes literature studies, group assignments, report writing, etc

At the campus teaching compulsory attendance at certain teaching parts can occur.

Examination

Examination takes place through individual, written examination, and a individual written assignment with oral presentation in seminars. The examination of the written assignment is assessed from both written contents and oral presentation.

The grading scale is Fail/Pass/Pass with distinction.

Attendance at compulsory lectures is required to obtain a passed grade. The course director assesses if, and in the case, how absence can be compensated. Before student has participated in compulsory lectures or compensated absence in accordance with the instructions of the Course Director the student's course results will not be reported in LADOK.

Limitation of number examination sessions

The student has the right to participate in six examination sessions. If the student has not passed after four examination sessions, the student is urged to visit the study adviser.

Every time the student participates in the same test counts as an examination session. Submission of blank exam is counted as examination session. Examination session to which the student has registered but not participated in will not be counted as an examination session.

Transitional provisions

Examination will be provided during a time of two years after a possible cancellation of the course. Examination can take place according to an earlier literature list during a time of one year after the date when a major renewal of the literature list been made.

Other directives

Course evaluation will be carried out according to the guidelines established by the Board of education and also according to evaluation routines within the Master's programme (one-year) in work and health.

Literature and other teaching aids

Bryman, Alan

Samhällsvetenskapliga metoder

Nilsson, Björn

2. uppl. : Malmö : Liber, 2011 - 690 s.

ISBN:978-91-47-09068-6 LIBRIS-ID:12056661

[Library search](#)

Körner, Svante; Wahlgren, Lars

Statistiska metoder

2. uppl. : Lund : Studentlitteratur, 2005 - 211 s.

ISBN:91-44-04420-8 LIBRIS-ID:9929820

[Library search](#)

Andersson, Ingemar

Epidemiologi för hälsovetare : en introduktion

Lund : Studentlitteratur, 2006 - 234 s.

ISBN:91-44-03250-1 LIBRIS-ID:9984485

URL: www.studentlitteratur.se/epidemiologi

[Library search](#)

Gustafsson, Bengt; Hermerén, Göran; Petersson, Bo

Vad är god forskningssed? : synpunkter, riktlinjer och exempel

Stockholm : Vetenskapsrådet, 2005 - 88 s.

LIBRIS-ID:10062528

URL: [Fritt tillgänglig via Vetenskapsrådet](#)

Birkler, Jacob

Vetenskapsteori : en grundbok

Björkander Mannheimer, Eva

2. uppl. : Stockholm : Liber, 2012 - 160 s.

ISBN:978-91-47-01993-9 (tills. med 1. uppl.) LIBRIS-ID:13519056

[Library search](#)

Altman, Douglas G.

Practical statistics for medical research

London: Chapman and Hall, 1991

ISBN:0-412-38620-8 LIBRIS-ID:8286190

[Library search](#)

Bogdan, Robert; Biklen, Sari Knopp

Qualitative research for education : an introduction to theory and methods

5. ed. : Boston, Mass. : Pearson A & B, cop. 2007 [dvs 2006] - 304 p.

ISBN:0-205-48293-7 LIBRIS-ID:10256268

[Library search](#)

Kvale, Steinar; Brinkmann, Svend

Den kvalitativa forskningsintervjun*Torhell, Sven-Erik*

2. uppl. : Lund : Studentlitteratur, 2009 - 370 s.
ISBN:978-91-44-05598-5 LIBRIS-ID:11365255
URL: [Omslagsbild](#)

[Library search](#)

*Malterud, Kirsti***Kvalitativa metoder i medicinsk forskning : en introduktion***Midenstrand, Madeleine*

2. uppl. : Lund : Studentlitteratur, 2009 - 244 s.
ISBN:978-91-44-05232-8 LIBRIS-ID:11313404

[Library search](#)

*Borg, Elisabet; Westerlund, Joakim***Statistik för beteendevetare**

2., uppdaterade uppl. : Stockholm : Liber, 2007 - 456 s.
ISBN:978-91-47-01510-8 LIBRIS-ID:10621074

[Library search](#)

*Ahlbom, Anders***Biostatistik för epidemiologer***Alfredsson, Lars*

Lund : Studentlitteratur, 1990 - 172 s.
ISBN:91-44-29311-9 ; 187:00 LIBRIS-ID:8353470

[Library search](#)

*Rothman, Kenneth J.***Epidemiology : an introduction**

2. ed. : New York, NY : Oxford University Press, cop. 2012 - viii, 268 s.
ISBN:978-0-19-975455-7 (pbk. : alk. paper) LIBRIS-ID:13454717

[Library search](#)

*Dahmström, Karin***Från datainsamling till rapport : att göra en statistisk undersökning**

5. uppl. : Lund : Studentlitteratur, 2011 - 489 s.
ISBN:978-91-44-06027-9 (inb.) LIBRIS-ID:12055806

[Library search](#)

*Hernberg, Sven***Introduction to occupational epidemiology**

Chelsea, Mich. : Lewis, cop. 1992 - 230 s.
ISBN:0-87371-636-1 ; CIP entry : \$69.95 (est.) LIBRIS-ID:6202131

[Library search](#)