



**Karolinska  
Institutet**

Course syllabus for

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

Vetenskaplig forskningsmetodik, 7.5 hp

This course syllabus is valid from spring 2019.

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

Spring2019 , Spring2021 , Spring2024 , Spring2025

Course code	5HI022
Course name	Scientific Research Methods
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Health Informatics
Level	AV - Second cycle
Grading scale	Excellent, Very good, Good, Satisfactory, Sufficient, Fail, Fail
Department	Department of Learning, Informatics, Management and Ethics
Decided by	Utbildningsnämnden LIME
Decision date	2019-03-13
Revised by	Education committee LIME
Last revision	2019-03-14
Course syllabus valid from	Spring 2019

## **Specific entry requirements**

A Bachelor's degree or a professional degree equivalent to a Swedish Bachelor's degree of at least 180 credits in healthcare, biomedicine, medical technology, computer and systems sciences, informatics or the equivalent. And proficiency in English equivalent to English B/English 6.

## **Objectives**

The course aims to provide in-depth knowledge of research design and methodology and to train the student in writing a study plan and critically reviewing scientific literature.

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

Knowledge and understanding

- \* Understand different scientific research designs and methods
- \* Learn how to set up a research study
- \* Understand correct ways to refer to and cite from scientific literature

Skills and ability

- \* Discuss and explain differences between different research methods

- \* Perform literature reviews and reference relevant scientific literature
- \* Formulate a research plan

Assessment ability and attitudes

- \* Critically assess different research designs
- \* Analyse, set as contrast, compare and review scientific literature
- \* Discuss own view in relation to the published research

## Content

The course includes:

- \* Research design
- \* Literature search and review
- \* Scientific writing
- \* Scientific presentation
- \* Critical scientific review
- \* Data types and data collection techniques
- \* Quantitative and qualitative methods and data analyses
- \* Ethical issues

## Teaching methods

- Lectures
- Self-study
- Teacher-led group activities (workshops)
- Peer assessment

## Examination

Individual assignment (A-F)

Oral presentation of group assignment (Pass/Fail)

The final grade is based on the grades of the individual assignments and an approved oral presentation of the group assignment.

Compulsory participation

All assignments and the oral presentation of the group assignment are compulsory. The course director decides if, and in that case how, absence may be compensated.

Limitation of number of occasions to write the exam

The student has the right to write the exam six times. If the student has not passed the exam after four participations

he/she is encouraged to visit the study counsellor.

If there are special grounds, or a need for adaptation for a student with a disability, the examiner may decide to deviate from the syllabus's regulations on the examination form, the number of examination opportunities, the possibility of supplementation or exemptions from the compulsory section/s of the course etc. Content and learning outcomes as well as the level of expected skills, knowledge and abilities may not be changed, removed or reduced.

## 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 has been made.

## Other directives

Course evaluation will be carried out in accordance with the guidelines established by the Board of Higher Education.

The course language is English.

## Literature and other teaching aids

### **Health informatics research methods : principles and practice**

*Layman, Elizabeth; Watzlaf, Valerie J.*

Chicago, Ill. : American Health Information Management Association, c2009. - xiii, 439 p.

ISBN:978-1-58426-181-0 : \$85.95 LIBRIS-ID:12452928

[Library search](#)

*Denscombe, Martyn.*

### **The good research guide : for small-scale social research projects**

4th ed. : Maidenhead : Open University Press, cop.2010. - 373 p.

ISBN:9780335241408 (electronic bk.) LIBRIS-ID:12194897

[Library search](#)

*Glasman-Deal, Hilary*

### **Science research writing for non-native speakers of English**

London : Imperial College Press, cop. 2010 - xiii, 257 s.

ISBN:9781848163096 (alk. paper) LIBRIS-ID:11775837

[Library search](#)