



**Karolinska  
Institutet**

Course syllabus for

# **Scientific Theory and Research Methods, 3 credits**

Vetenskaplig teori och metod, 3 hp

This course syllabus is valid from autumn 2023.

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

Autumn2019 , Autumn2023

Course code	2TL050
Course name	Scientific Theory and Research Methods
Credits	3 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Not applicable
Level	GX - First cycle
Grading scale	Fail (U) or pass (G)
Department	Department of Dental Medicine
Decided by	Education committee DENTMED
Decision date	2019-03-28
Revised by	Education committee DENTMED
Last revision	2023-03-22
Course syllabus valid from	Autumn 2023

## **Specific entry requirements**

Biology 2, Physics 2, Chemistry 2, Mathematics 4 or Mathematics D.

## **Objectives**

After completing the course the student can:

- Explain concepts within theory of science and scientific method.
- Describe and discuss the structure of scientific articles.
- Independently search and select relevant information from scientific databases and other sources, and orally account for this in English.
- Critically assess the quality of scientific articles in the medical and dental field.
- Reflect on public health from a scientific and global perspective.
- Reflect on their own values and attitudes towards research ethics and the importance of life-long learning for their profession as a dentist.

# Content

- Scientific method, including central concepts within research.
- Information searching and scientific databases.
- Critical review of scientific articles including their structure and quality.
- Study design and basic epidemiology.
- Medical and research ethics.

## Teaching methods

Lectures, seminars, workshop and group work.

## Examination

Examination: Written group assignments, oral group presentation and individual written examination.

Compulsory parts: Seminars, group work and workshop.

The examiner decides whether, and if so how, absence from compulsory course elements can be made up. Study results cannot be reported until the student has participated in compulsory course elements or compensated for any absence in accordance with instructions from the examiner. Absence from a compulsory course element could mean that the student can not retake the element until the next time the course is offered.

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/tests, no additional examination is given. Each occasion the student participates in the same test counts as an examination. Submission of a blank exam paper is regarded as an examination. In case a student is registered for an examination but does not attend, this is not regarded as an examination.

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

If the course is discontinued or undergoes major changes, examination with the previous literature list and learning outcomes will be offered for no more than one academic year after the implementation of the revision/discontinuation.

## Other directives

Language of instruction: English and Swedish.

Language of examination: The oral group presentation is held in English. All other examinations or compulsory activities are held in Swedish.

## Literature and other teaching aids

### Mandatory literature

*Ludvigsson, Jonas F.*

**Att börja forska - - inom medicin, bio- och vårdvetenskap**

2. uppl. : Studentlitteratur AB, 2015 - s.

ISBN:9789144097367 LIBRIS-ID:17877457

[Library search](#)

Relevant scientific articles