



**Karolinska  
Institutet**

Course syllabus for

## **Scientific Theory, 7.5 credits**

Vetenskapsteori, 7.5 hp

This course has been cancelled, for further information see Transitional provisions in the last version of the syllabus.

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

Autumn2020 , Autumn2022

Course code	1OH001
Course name	Scientific Theory
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Oral Health
Level	G2 - First cycle 2
Grading scale	Fail (U), pass (G) or pass with distinction (VG)
Department	Department of Dental Medicine
Decided by	Utbildningsnämnden DENTMED
Decision date	2020-03-23
Revised by	Education committee DENTMED
Last revision	2022-02-10
Course syllabus valid from	Autumn 2022

## **Specific entry requirements**

University Diploma in Dental Hygiene equivalent to 120 credits (80 credits)

## **Objectives**

Theory of science 5.5 credits

After completing the course, the student will be able to:

- Give an account of basic scientific theory traditions.
- Explain and exemplify different scientific theoretical research methods and give an account of the concepts of reliability, validity and credibility with respect to data collection methods in the main field of study.
- Reflect on research-ethical principles and ethical scientific approach.
- Give an account of how research documentation should be carried out based on given guidelines.
- Review scientific articles critically and understand the importance of the contents for the clinical activities.
- Apply knowledge of research questions by writing a minor report.

- Identify their own need for additional knowledge.

Statistics 2 credits

After completing the course, the student will be able to:

- Give an account of basic concepts in descriptive statistics.
- Apply basic calculations for descriptive statistics.
- Use Excel to carry out and interpret basic statistical calculations.

## Content

The course consists of the modules *Theory of science* and *Statistics*.

### Theory of science, 5.5 hp

Grading scale: VU

- Basic concepts within theory of science and methodology.
- Various data collection methods such as measurement, questionnaire and interview, and basic methods of analysis within both quantitative and qualitative research.
- Different designs of publications; original articles, literature surveys and meta-analyses
- Guidelines for critical review and evaluation of scientific articles in odontology.
- Research-ethical guidelines are addressed.
- To write a minor report for a degree project with a scientific orientation. In the report apply knowledge of research that includes research questions, design, method, literature search and give an account of the relevance of the project for oral health.

### Statistics, 2.0 hp

Grading scale: GU

- Different variables date, basic statistical concepts and application of calculations for descriptive statistics.
- Calculations such as confidence interval, regression, carry out hypothesis test with t-test and ANOVA.
- Implications of statistics in research projects.
- In one of the parts of the course, the student will apply the exercises in the computer program Excel.

## Teaching methods

Lectures, seminars, group work and self-study.

Seminars and exercises are compulsory.

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 course coordinator. 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

Theory of science 5.5 credits

Written individual examination

Written assignments  
 Oral presentations at seminars  
 Written submission and oral presentation of a minor report

Statistics 2 credits  
 Written practice assignments  
 Written individual examination

To receive a grade of pass with distinction for the whole course, a pass with distinction is required for the module Theory of science and a grade pass for the module Statistics.

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.

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

The course will be offered for the last time in the autumn semester of 2022 and will then be cancelled. Examination will be provided until the autumn of 2023 for students who have not completed the course.

## Literature and other teaching aids

*Bell, Judith*

### **Introduktion till forskningsmetodik**

*Nilsson, Björn*

4., [uppdaterade] uppl. : Lund : Studentlitteratur, 2006 - 265 s.

ISBN:91-44-04645-6 LIBRIS-ID:10238108

URL: <http://www.studentlitteratur.se/omslagsbild/artnr/3702-04/height/320/width/320/bild.jpg>

[Library search](#)

*Olsson, Henny; Sörensen, Stefan*

### **Forskningsprocessen : kvalitativa och kvantitativa perspektiv**

3. uppl. : Stockholm : Liber, 2011 - 328 s.

ISBN:91-47-10051-6 LIBRIS-ID:12233128

[Library search](#)

*Patel, Runa; Davidson, Bo*

### **Forskningsmetodikens grunder : att planera, genomföra och rapportera en undersökning**

4., [uppdaterade] uppl. : Lund : Studentlitteratur, 2011 - 149 s.

ISBN:978-91-44-06868-8 LIBRIS-ID:12180090

[Library search](#)

*Carlsson, Bertil*

### **Grundläggande forskningsmetodik för medicin och beteendevetenskap**

2., [utök.] uppl. /b 3. [tr.] : Stockholm : Liber, 1997 - 198 s.

ISBN:91-47-00298-0 LIBRIS-ID:7283595

[Library search](#)

*Helgesson, Gert*

**Forskningsetik**

2. uppl. : Lund : Studentlitteratur, 2015 - 176 s.

ISBN:9789144088495 LIBRIS-ID:18062643

[Library search](#)