



**Karolinska  
Institutet**

Course syllabus for

# **Epidemiological Methods for Studying Determinants of Health, 7.5 credits**

Epidemiologiska metoder för att studera sjukdomars bestämningsfaktorer, 7.5 hp

This course syllabus is valid from spring 2024.

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

Spring2020 , Spring2021 , Spring2022 , Spring2024

Course code	4FH086
Course name	Epidemiological Methods for Studying Determinants of Health
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Public Health Sciences
Level	AV - Second cycle
Grading scale	Pass with distinction, Pass, Fail
Department	Institute of Environmental Medicine
Decided by	Utbildningsnämnden PHS
Decision date	2018-10-09
Revised by	Education Committee GPH
Last revision	2023-10-18
Course syllabus valid from	Spring 2024

## **Specific entry requirements**

A Bachelor's degree or a professional degree equivalent to a Swedish Bachelor's degree of at least 180 credits in public health science, healthcare or other relevant social sciences subject area. And proficiency in English equivalent to English B/English 6.

## **Objectives**

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

- formulate principles of various types of common epidemiological study designs, and describe their strengths and weaknesses,
- calculate and interpret measures on disease occurrence and relationships, and describe how a specific measure is influenced by the study design,
- describe theoretical models for causality and discuss principles of causal mechanisms
- identify and explain various types of sources of errors in epidemiological studies,
- explain and discuss epidemiological concepts including validity and precision related to different

- epidemiological study designs,
- draw conclusions from epidemiological scientific articles and summarise and review these critically based on study design, results, validity and precision.

## Content

The course focuses on epidemiological theory and practice. It contains principles of design, analysis and interpretation of epidemiological studies. The course introduces the concept of causality, concepts related to study basis, measures on disease occurrence and measures on relationships, effect modification, common designs for epidemiological studies (cohort studies, case control studies, cross-section studies) and the importance of various types of sources of errors.

## Teaching methods

The course focuses on active learning i.e. to turn knowledge into practice and critical reflection. Different strategies for learning will be used such as lectures, group assignment and an individual assignment that runs throughout the course.

An individual assignment with feedback at different time points will also be an important method for the students to apply the knowledge they have gained at the course. The task will be part of the examination of the course.

## Examination

To pass on the course the student should show that the expected learning outcomes have been achieved. Two examinations are used, one individual assignment and one written examination. The individual assignment will be presented both written and orally by student. The student shall also be opponent to another student's presentation. These parts are all graded with Fail/Pass.

Group assignments are mandatory.

The written exam is graded with Fail/Pass/Pass with distinction and consists of two assignments on Pass level and one assignment on Pass with distinction level. In order to pass the exam, the student must pass both Pass assignments. To pass with distinction the student must pass both Pass assignments, and Pass with distinction on the Pass with distinction assignment.

If a student fails both Pass assignments of the exam, the student must do a complete new re-exam.

If a student fails only one of the Pass assignments, the student can supplement by taking the re-exam for that Pass assignment only. If supplementing, and passing the Pass assignment on the re-exam, the Pass with distinction assignment from the first exam will be the basis for the grading of pass with distinction.

The student can also choose to re-write the whole new exam even if he/she passed one of the Pass assignments. Then the student will re-write both Pass assignments as well as the Pass with distinction assignment.

One exam and one reexam will be offered within each course instance. Students who fail in these exams will be offered a second reexam next time the course is given.

### Compulsory participation

The course director assesses if and how absence from compulsory parts can be compensated. Before the student has participated in compulsory parts or compensated absence in accordance with the course director's instructions the student's course results will not be reported to LADOK. Absence from a compulsory part may result in the student having to wait to compensate until the next time the course is given.

### Limited number of examinations

Students who have not passed the regular examination are entitled to participate in five more examinations. If the student has failed six examinations/tests, no additional examination or new

admission is provided.

The number of times that the student has participated in one and the same examination is regarded as an examination session. Submission of blank exam is regarded as an examination session. An examination for which the student registered but not participated in, will not be counted 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

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 is carried out according to the guidelines that are established by The Committee for Higher Education.

The course is given in English.

## Literature and other teaching aids

*Norell, Staffan*

### **Workbook of epidemiology**

New York ;a Oxford : Oxford University Press, 1995 - x, 317 s.

ISBN:0-19-507490-4 (inb.) LIBRIS-ID:4611326

[Library search](#)

*Gordis, Leon*

### **Epidemiology**

Fifth edition. : - xv, 392 pages

ISBN:9781455737338 (pbk. : alk. paper) LIBRIS-ID:16006705

[Library search](#)