



**Karolinska
Institutet**

Course syllabus for

Applied Epidemiology 1 - Distribution of Health, 5 credits

Tillämpad epidemiologi 1 - sjukdomars förekomst och spridning, 5 hp

This course syllabus is valid from spring 2025.

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

Spring2020 , Spring2022 , Spring2023 , Spring2024 , Spring2025

Course code	4FH089
Course name	Applied Epidemiology 1 - Distribution of Health
Credits	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	Department of Global Public Health
Decided by	Utbildningsnämnden PHS
Decision date	2018-10-09
Revised by	Education Committee GPH
Last revision	2024-10-11
Course syllabus valid from	Spring 2025

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

The course aims to give advanced knowledge of epidemiological surveillance and its application within different contexts in the public health area.

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

- define different methods of epidemiological surveillance and its critical components
- list the main fields of use of descriptive epidemiological data
- describe the data sources that are used for epidemiological surveillance in different contexts

- assess the quality of various epidemiological surveillance systems
- carry out and interpret statistical analyses of population based data to describe occurrence and distribution of health and health determinants

Content

The course highlights epidemiological surveillance and its history, considerations in the planning of surveillance system, sources and collection of information, analysis, interpretation of data, dissemination of results and evaluation of surveillance systems as well as ethical and legal issues. The role and prerequisite in different contexts (low- middle- and high income countries and at local, regional, national and global level) of the surveillance will be illustrated. The focus of the course is the interpretation and application of surveillance data when designing public health policy concerning different topics (specific communicable and non-communicable diseases among others) and populations (e.g. Maternal and child health).

Teaching methods

The combination of the following working methods will be employed: lectures, seminars, computer exercises and individual work and group assignments.

Examination

The course will be examined by a written individual assignment and an oral presentation thereof. The assignment consists of writing a report including analyses of data, interpretation of results and discussing limitations the data and of the methods for surveillance of the selected topic. The report will be graded as Pass/Pass with distinction/Fail. In addition, the student shall present their report orally (Pass/Fail). The student should also assess another student's report (Pass/Fail).

Compulsory participation

Compulsory attendance applies to the examination seminars, when students present their reports orally. Additionally to pass the course, it is compulsory to participate in two other seminars (specified in the scheduled provided to the students). The examiner assesses if and, in that case, how absence can be compensated. Before the student has participated in all compulsory parts or compensated absence in accordance with the examiner's instructions, the student's results for respective part will not be registered. Absence from a compulsory activity may result in that the student cannot compensate the absence until the next time the course is given.

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 advisor.

The number of times that the student has participated in one and the same examination is regarded as an examination session. Submission of a blank examination is regarded as an examination. An examination for which the student registered but had 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 will be carried out in accordance with the guidelines established by the Committee for Higher Education.

The course language is English.

Literature and other teaching aids

Mandatory literature

Scientific articles, reports and a computer-aided application will be distributed during the course.

Recommended literature

Aschengrau, Ann; Seage, George R.

Essentials of epidemiology in public health

Fourth edition. : 2019 - 528 pages

ISBN:9781284128352 LIBRIS-ID:5fcp77t13p5c7m84

[Library search](#)

Rothman, Kenneth J.; Greenland, Sander; Lash, Timothy L.

Modern epidemiology

Third edition. : Philadelphia : Lippincott Williams & Wilkins, [2008] - x, 758 pages

ISBN:9781451190052 LIBRIS-ID:15157842

[Library search](#)

Other relevant reference literature

Declich, S; Carter, AO

Public health surveillance: historical origins, methods and evaluation

Bull World Health Organ, 1994

URL: [Public health surveillance: historical origins, methods and evaluation](#)

Global Health : An Introductory textbook

Lindstrand, Ann; Bergström, Staffan; Rosling, Hans; Rubenson, Birgitta; Stenson, Bo

Studentlitteratur AB, 2006 - 326

ISBN:9144021984

[Library search](#)

Please note: Supplementary literature, links and databases tailored to specific topic/lecture may be recommended.