



**Karolinska
Institutet**

Course syllabus for

Research methodology, 7.5 credits

Forskningsmetodik, 7.5 hp

This course syllabus is valid from autumn 2008.

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

Autumn2008 , [Autumn2011](#) , [Autumn2015](#) , [Autumn2017](#) , [Autumn2019](#) , [Autumn2020](#) , [Autumn2022](#)

Course code	3GB001
Course name	Research methodology
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Global Health
Level	AV - Second cycle
Grading scale	Pass with distinction, Pass, Fail
Department	Department of Global Public Health
Decided by	Programnämnden för folkhälsovetenskap
Decision date	2008-09-29
Course syllabus valid from	Autumn 2008

Specific entry requirements

Bachelor's degree or vocational degree worth at least 180 higher education credits. Proficiency in the English language documented by an internationally recognized test such as TOEFL with a total score of at least 79 (internet based), 550 (paper based), 213 (computer based), IELTS with a total score of at least 6,0 (no band less than 5,0), or other documentation that certifies English language skills equivalent to English B at Swedish upper secondary school.

Objectives

After completion of the course the students should be able to: Apprehend and assess the basic principles underlying different study designs, their use, strengths and limitations Assess strengths and limitations of different sources of epidemiological data on health status and health service utilization in both high income and low- and middle-income countries Identify problems caused by random errors, bias and confounding in interpreting epidemiological data Define the role of statistical methods in public health research Use appropriate statistical method for the analysis of different data sets and interpret and present findings from statistical analyses in a clear, concise, and logical manner Describe and use the steps to design, data collection and analysis for a qualitative project Explain key concepts and assess the relevance of ethics in global health research

Content

Philosophy of science. Measures of disease frequency and risk, and alternative sources of epidemiological data. Study design: cross-sectional, cohort, case-control and intervention studies. Interpretation of epidemiological studies: causality, random errors, bias, confounding. Describing data: tables and graphs; proportions; measures of central tendency (mean, median), and spread (range, standard deviation); differences and ratios. Sampling variability: confidence intervals and p-values, especially for means and proportions, and for differences in means and proportions. Simple linear regression analysis and correlation coefficients and an introduction to multivariable analysis. Statistical analyses using software. Qualitative research methods. Observational method, Interviews, Focus Group Discussions. Participatory methods. Sampling and data analysis. Validity and triangulation in qualitative research. Principles of critical reading of a scientific paper. Literature Search using the Internet and library.

Teaching methods

Learning activities include lectures, group work, assignments and practical sessions.

Examination

Written examination and group assignment. It is compulsory to attend all the lectures. Absence will be compensated by extra individual assignments provided by the course organizer. A student who does not pass the examination on the first occasion is offered a maximum of five additional opportunities to sit the examination.

Transitional provisions

The examination can be done up to two years after the last course.

Other directives

The course will be evaluated in accordance with the guidelines established by the Board of Higher Education using websurvey.

Literature and other teaching aids

Bonita, Ruth; Beaglehole, Robert; Kjellström, Tord

Basic epidemiology

2. ed. : Geneva : World Health Organization, cop. 2006 - xi, 213 s.

ISBN:92-4-154707-3 LIBRIS-ID:10467517

[Library search](#)

Health research methodology : a guide for training in research methods.

2nd ed. : Manila : WHO, ,c 2001 - IX, 237 s.

ISBN:92-9061-157-X LIBRIS-ID:9468534

[Library search](#)