



**Karolinska  
Institutet**

Course syllabus for

## **Research methodology, 7.5 credits**

Forskningsmetodik, 7.5 hp

This course syllabus is valid from autumn 2011.

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                              |
| Revised by                 | Programnämnd 5                          |
| Last revision              | 2011-09-22                              |
| Course syllabus valid from | Autumn 2011                             |

## **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 student should be able to: - Assess strengths and limitations of different sources of epidemiological data on health status and health care utilisation in low-, middle-, and high-income countries. - Describe how to design, collect and analyse data in a qualitative project. - 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. - Identify problems caused by systematic errors, bias and confounding in interpreting epidemiological data.

## **Content**

Study design: cross-sectional, case-control, cohort, and intervention studies. Interpretation of epidemiological and statistical concepts as causality, random errors, bias, confounding. Measures of disease frequency and risk, and alternative sources of epidemiological data. Describing univariate and bivariate data: tables and graphs; proportions; measures of central tendency (mean, median), and variability (range, standard deviation, percentiles); correlation coefficients, differences and ratios. Statistical inference: confidence intervals and p-values, hypotheses tests. Simple linear regression analysis and an introduction to multivariable and logistic 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.

## Teaching methods

Learning activities include lectures, group work and practical sessions.

## Examination

Written examination. 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 not participated in will not be counted as an examination.

## Transitional provisions

After each course occasion there will be at least six occasions for the examination within a 2-year period from the end of the course.

## Other directives

Course evaluation will be carried out in accordance with the guidelines established by the Board of Education. The course language is English.

## 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](#)