

Approved by FUN 3 June 2015, applies from 1 July 2015
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Research Studies Board (FUN)

Epidemiology I – Introduction to Epidemiology

Epidemiologi I – Introduktion till epidemiologi, MEEPEP1

1.5 credits

Third cycle

General information

The course is offered on a full-time or part-time basis for doctoral students at the Faculty of Medicine, and is aimed at all those conducting or evaluating patient or population research based on individual data. Subject to availability, the course is also open to other applicants such as researchers holding a PhD or other staff associated with the faculty.

Language of instruction

Swedish or English

Aim

The aim of the course is to help in raising the quality of point of care clinical or health science research as well as register-based population research through introducing an epidemiological approach in all phases of such research.

Learning outcomes

On completion of the course, the participants shall be able to

- provide examples of research questions that are suitable for study using epidemiological methodology
- draw and interpret Directed Acyclic Graphs (DAGs)
- describe data sources and collection methods (clinical data, registers, biobanks, surveys) that are often used for exposure and disease outcomes in epidemiological studies
- give an account of common epidemiological study designs
- calculate and interpret common measurements of disease outcomes and correlations at individual and population levels

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- give an account of important systematic sources of error in epidemiological studies

Course content

The course comprises three different themes:

1) Introduction

- basic concepts and principles. Examples of research questions.
- Directed Acyclic Graphs (DAGs)
- data sources and collection methods in epidemiological studies

2) Measurement of disease outcomes and correlations

- outcome frequencies (incidence and mortality rate), outcome probabilities (risk ratio) and prevalence ratio
- absolute and relative comparisons of disease outcomes
- etiological fraction, average life expectancy and number of lost Disability-Adjusted Life Years (DALY)

3) Introduction to epidemiological study design

- cohort follow-ups
- follow ups of dynamic populations
- case control studies
- cross-sectional studies
- systematic error (confounding variables – confounding, selection error and information error)

Course design

On the course, compulsory teaching components alternate with individual and group work as well as reading before the exam. The teaching components consist of interactive lectures, practical exercises and group discussions.

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Assessment

The course is assessed through active participation in all the course components and through a written individual examination.

Grades

The grades awarded are Pass and Fail.

Entry requirements

To be admitted to the course, applicants are required to be admitted to third-cycle studies at the Faculty of Medicine or equivalent, and to have a Pass grade in Applied Statistics I or equivalent.

Reading list

Rothman KJ. Epidemiology - an introduction. Oxford University Press 2nd edition 2012.

Reading instructions for the textbook and other study resources will be distributed at the start of, and during, the course.