MEVN28, Medical Sciences: Biostatistics I, 7.5 credits

Medicinsk vetenskap: Biostatistik I, 7,5 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Board of Rehabilitation Sciences Education on 2015-02-03 to be valid from 2015-07-01, autumn semester 2015.

General Information

The course is an elective component of the Master's programme in Medical Science. The course complies with the regulations of the Higher Education Ordinance (SFS 1993:100) with later amendments. The course can also be studied as a freestanding course.

Language of instruction: Swedish
The course may be taught in English.

Main field of studies	Depth of study relative to the degree requirements
Occupational Therapy	A1N, Second cycle, has only first-cycle course/s as entry requirements
Audiology	A1N, Second cycle, has only first-cycle course/s as entry requirements
Radiography	A1N, Second cycle, has only first-cycle course/s as entry requirements
Nursing	A1N, Second cycle, has only first-cycle course/s as entry requirements
Speech and Language Pathology	A1N, Second cycle, has only first-cycle course/s as entry requirements
Physiotherapy	A1N, Second cycle, has only first-cycle course/s as entry requirements
Reproductive, Perinatal and Sexual Health	A1N, Second cycle, has only first-cycle course/s as entry requirements
Medicine	A1N, Second cycle, has only first-cycle course/s as entry requirements

Learning outcomes

Knowledge and understanding
On completion of the course, the students shall be able to

- account for and discuss basic statistical concepts
- judge the levels of measurement and distribution characteristics of variables
- demonstrate basic knowledge of hypothesis testing
- demonstrate knowledge of the evaluation of validity and reliability

Competence and skills
On completion of the course, the students shall be able to

- define a problem that is suited for statistical research
- use computer software for basic statistical analyses
- use descriptive statistics to report data
- perform hypothesis testing
- execute correlation and regression analyses
- present the results of their own completed analyses

Judgement and approach
On completion of the course, the students shall be able to

- draw conclusions on the basis of a defined problem formulation and completed analyses
- critically judge the use of statistical methods in research articles

Course content

The aim of the course is to provide students with an introduction to biostatistics and its basic assumptions. A further aim is to introduce students to the principles of performing and analysing statistical investigations. The course includes the following components:

- basic statistical concepts
- the levels of measurement and distribution characteristics of variables
- research design
- management of statistics software
- statistical description
- point and interval estimation
- hypothesis testing (parametric and non-parametric)
- correlation
- linear regression analysis
- validity and reliability

Course design

The studies on the course are characterised by active information searching, problem solving, reflection and critical analysis. The methods of work can vary between individual work, group assignments, seminars, lectures and independent study.

Assessment

The numbers for the forms of assessment correspond to the list of subjects examined above.

1. Individual take-home exam in the form of a review of a research article
2. Take-home exam in the form of a critical review of the student's own analyses. Presentation and peer review of analyses.

For a pass on the course, the student must have passed all the subjects examined.

Number of exams

One examination and one opportunity to retake the examination are arranged soon after the course. Students who do not achieve a pass on either of these occasions will be able to retake the examination on a later occasion. Students who have failed an examination on a theoretical course are entitled to retake the examination four times.

New examiner

A student who has twice failed examination on a course or course component is entitled to have another examiner appointed, unless there are special reasons to the contrary. (SFS 2006:1053). The request is to be made to the programme director.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass.
Grades are set for a completed course. One of the grades Pass or Fail is awarded.

Entry requirements

To be admitted to the course, students must have a degree in audiology, medicine, nursing, occupational therapy, physiotherapy, radiology nursing or speech and language pathology corresponding to a Bachelor's degree (180 credits including a degree project of 15 credits) or an equivalent qualification in medical science.

Further information

The course replaces MEVN20.

Subcourses in MEVN28, Medical Sciences: Biostatistics I

Applies from H15

1501   Research methodology/scientific paper review, 1,0 hp
       Grading scale: Fail, Pass
1502   Presentation and critical review of own analyses, 6,5 hp
       Grading scale: Fail, Pass

This is a translation of the course
syllabus approved in Swedish