

FÖRDJUPAD KVANTITATIV ANALYS

ADVANCED QUANTITATIVE ANALYSIS

7.5 högskolepoäng - 7.5 credits

Kurskod: MAKVAN

Nivå: Avancerad nivå

Huvudområde: Idrott/idrottsvetenskap

Fördjupningsgrad: A1F

Utbildningsområde: Idrottsliga området

Ämne: Idrott

Fastställd av: Institutionen för fysisk aktivitet och hälsa 2023-11-27

Version: 1

Gäller från: Höstterminen 2024

Specific entry requirements

7.5 credits in statistics

Intended learning outcomes

Knowledge and understanding

- Explain central concepts in advanced quantitative data analysis and modelling,

Skills and abilities

- select and apply statistical models and programming code in advanced quantitative data analysis,

Evaluation ability and approach

- compare and critically review choices of different statistical models to answer research questions.

Course content

The course includes the following areas:

- Data processing, analysis and data organization in statistical programs,
- Regression models, multivariate models and longitudinal models.

Examination

For each test, an ordinary test opportunity and an ordinary retest opportunity are arranged. Ordinary re-examination (opportunity 2) is offered no earlier than two weeks and no later than

six weeks after the student has been notified of the grading decision from the first examination opportunity.

In addition to regular exams and regular re-examinations, additional re-examinations are given (opportunity 3 or more) for both theoretical and practical examinations. At least three examination opportunities must be offered within one year for each examination within a course opportunity.

A student who does not fully meet the goals of an examination may, at the decision of the examiner, be given the opportunity to supplement to achieve a passing grade. It is only possible to supplement up to pass, not to higher grades. Normally, the student is assigned the supplementary assignment in connection with the grade being announced on the regular examination occasion. Completion must be submitted within two weeks after the student is notified of the test result, but before the next re-examination. If the student does not meet this within the set time, the grade fails and the student is referred for re-examination.

Participation in the seminar is a mandatory part of the course.

If a course requirement (compulsory course element) is not fulfilled, the opportunity for a replacement assignment can be given by the examiner. The assignment must be submitted no later than in connection with the completion of a module or course.

If the student has a decision from GIH about special educational support due to disability or other reasons, the examiner has the right to give an adapted test or let the student complete the test in an alternative way.

Mode of examination

The course examinations are as follows.

Skriftlig tentamina, 7.5 hp
Written examination, 7.5 credits

Deltagande i seminarium, 0 hp
Seminar participation, 0 credits

When students are examined, the obligations and rights are set accordingly with GIS's policies and regulations.

Grades

On the course, one of the grades Pass with distinction (VG), Pass (G) and Fail (U) is given. To obtain a Pass grade for the course as a whole, a pass is required on all examinations in the course. For a grade Pass with distinction on the entire course, Pass with distinction on the written exam is required.

At the start of the course, at the latest, the student must receive precise information about grading criteria for each level.

Student influence and course evaluation

In accordance with 1 chapter section 14 of the Higher Education Ordinance (1993: 100) a written course evaluation is arranged after completing the course. Feedback from the results to the students is done after completing the course evaluation.

Course evaluations should focus on the students' learning and the pedagogical process in the course, where learning outcomes, learning activities and the outcome of the examination form the basis for a pedagogical reflection as well as the quality of the course.

Type of instruction

Teaching takes place in the form of lectures, group assignments, computer labs and seminars.

Other information

In the event that a course has ended or undergone major changes, the student after the change or the abolition of the course must be guaranteed at least three additional examinations (in addition to the regular examination) for a period of at least one year, but no longer than two years after the course has ended/changed.

Teaching in English.

Literature and list of references

Gäller hela kursen

Obligatorisk litteratur och övriga läromedel:

Compulsory literature:

Vittinghoff, E., Glidden, DV., Stephen SC., & McCulloch, CE. (2011). *Regression Methods in Biostatistics*. Springer-Verlag New York Inc, 509 p. ISBN: 9781461413523.

Valbar litteratur och övriga läromedel:

Optional literature:

Chambers, JM. (2008). *Software for Data Analysis: Programming with R*. Springer, 498 p. ISBN: 9780387759357.

Fitzmaurice, GM., Laird, NM., & Ware, JH. (2011). *Applied Longitudinal Analysis*. John Wiley & Sons Inc, 752 p. ISBN: 9780470380277.

Loehlin, JC., & Beaujean, AA. (2017) *Latent Variable Models: An Introduction to Factor, Path, and Structural Equation Analysis*. Routledge, 390 p. ISBN: 9781138916067.