

## Introduction to Quantitative Data Analysis, 4 credits

Introduktion till analys av kvantitativa data, 4 högskolepoäng

<b>Course code:</b>	FOUK032
<b>Host School:</b>	School of Education, Culture and Communication
<b>Valid from:</b>	Date of decision
<b>Established by:</b>	Dean of the School
<b>Decision date:</b>	2024-11-19
<b>Last modified:</b>	--
<b>Level of education:</b>	Third cycle level
<b>Language:</b>	English
<b>English version:</b>	Yes

### Course objective

The course teaches participants to develop the skills to independently perform quantitative analyses in scientific studies and draw conclusions by interpreting the results. The course introduces fundamental concepts, tests and tools for performing statistical analysis and students are expected to implement the tests using empirical data provided.

### Course content

- Analytical/inferential statistics and their assumptions
- Implementation of parametric statistical techniques (such as mean comparison, regression analysis, and factor analysis)
- Introducing non-parametric statistical analysis and equivalent tests
- Interpretation of results

### Intended learning outcomes

After completing the course, the doctoral student should be able to:

1. determine the most appropriate statistical test to be performed in relation to the research question and data.
2. perform basic statistical analyses including correlation analysis, mean comparison and regression analysis using SPSS and interpret the results.

3. comprehend and critically discuss scientific articles regarding the design and use of quantitative methods (within the doctoral student's field of research).

## **The intended qualitative targets in the Higher Education Ordinance, appendix 2.**

### ***Knowledge and understanding***

For the Degree of Doctor, the doctoral student shall demonstrate:

- A2: familiarity with research methodology in general and the methods of the specific field of research in particular.

### ***Competence and skills***

For the Degree of Doctor, the doctoral student shall demonstrate:

- B1: the capacity for scholarly analysis and synthesis as well as to review and assess new and complex phenomena, issues and situations autonomously and critically,
- B2: the ability to identify and formulate issues with scholarly precision critically, autonomously, and creatively, and to plan and use appropriate methods to undertake research and other qualified tasks within predetermined time frames and to review and evaluate such work,

### ***Judgement and approach***

For a Degree of Doctor, the doctoral student shall demonstrate

- C2: specialised insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used.

## **Teaching formats**

Lectures, computer labs and seminars.

## **Examination**

SEM1, active participation in seminars and computer labs, 1 credit, relevant to learning outcomes 1 and 2, grade fail (U) or pass (G).

INL1, written assignment, 3 credits, concerning learning outcomes 1, 2 and 3, grade fail (U) or pass (G).

## **Grade**

Two-grade scale fail (U) or pass (G).

A person who has not passed the regular examination shall be given the opportunity to retake the test.

## **Requirements**

To participate in the course and the examinations included in the course, the applicant must be admitted to doctoral studies.

## **Selection criteria**

Selection of applicants will be made in accordance with the ranking below.

1. Doctoral students at Mälardalen University
2. Doctoral students at other universities
3. Teachers at Mälardalen University who hold a PhD.

## **Transitional and other provisions**

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