



## Course syllabus

School of Business and Economics  
Department of Economics and Statistics

1ST905 Grundläggande statistik och statistiska metoder för företagsekonomi och nationalekonomi, 15 högskolepoäng  
Basic statistics and statistical methods for Business and Economics, 15 credits

### Main field of study

Statistics

### Subject

Statistics

### Level

First cycle

### Progression

G1N

### Date of Ratification

Approved 2024-02-19.

The course syllabus is valid from autumn semester 2024.

### Prerequisites

General entry requirements + Civics 1b alt. Civics 1a1 +1a2, Mathematics 3b alt. Mathematics 3c and English 6.

## Objectives

### Module 1: Basic statistics for business and economics, 7.5 credits

After completing this module the student should be able to:

- discuss the meaning and use of measures of centrality and measures of spread
- describe the differences between point estimation and interval estimation
- discuss the meaning and relevance of the central limit theorem
- present, summarize and analyze data using statistical software

- carry out elementary probability calculations
- carry out hypotheses testing about measures of centrality and proportions
- critically assess the general usability and limitations of the statistical methods used in Module 1

### **Module 2: Statistical Methods for business and economics, 7.5 credits**

After completing this module the student should be able to:

- discuss the pros and cons of parametric and non-parametric methods
- describe the sampling methods included in the course
- carry out and interpret statistical analysis using statistical software,
- present a statistical analysis covered in the course in a written document,
- implement an adequate model for a given statistical problem
- detect an incorrectly specified model
- critically assess the general usability and limitations of the statistical methods used in Module 2

## Content

### **Module 1: Basic statistics for business and economics, 7.5 credits**

The module contains:

- descriptive statistics
- probabilities and combinatorics
- random variables
- basic discrete and continuous distributions
- samples and sample distribution, especially the central limit theorem
- point- and interval estimates of measures of centrality and proportions
- hypothesis testing of population means and proportions

### **Module 2: Statistical methods for business and economics, 7.5 credits**

The module contains:

- test of goodness of fit and independence
- correlation analysis
- multiple linear regression models,
- time series data,
- non-parametric models
- sampling methodology

## Type of Instruction

Teaching is carried out as distance learning via a learning platform and consists of self-studies based on instructions from the course coordinator. The teaching consists of lectures and computer group exercises. The course requires access to a computer with internet connection and a webcam.

## Examination

The course is assessed with the grades A, B, C, D, E or F.

**Module 1: Basic statistics for business and economics, 7.5 credits**

The module is examined through an individual written digital query 1 credit, a computer exercise with written hand in group assignment 1.5 credits and an individual written examination 5 credits.

**Module 2: Statistical methods for business and economics, 7.5 credits**

The module is examined through an individual written digital query 1 credit, a computer exercise with written hand in group assignment 1.5 credits and an individual written examination 5 credits.

**The following applies to all modules:**

The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail.

The grade of the course is a combined assessment from the grades of the various course modules. The combined assessment is based on the grades and the scope of the course (15 credits). The more extensive a module is, the greater impact it will have on the final grade. Module grades with the grading scale between G-U will not be considered into the combined assessment. However, a G is required for each of the modules in order to receive a final course grade.

Resit examination is offered in accordance with Linnaeus University's Local regulations for courses and examination at the first- and second-cycle levels.

In the event that a student with a disability is entitled to special study support, the examiner will decide on adapted or alternative examination arrangements.

## Course Evaluation

A course evaluation should be conducted during the course or in connection with its conclusion. The results and analysis of the completed course evaluation should be promptly communicated to students who have completed the course. Students participating in the next course instance should be informed of the results of the previous course evaluation and any improvements that have been made, no later than at the start of the course.

## Overlap

The course cannot be included in a degree along with the following course/courses of which the content fully, or partly, corresponds to the content of this course: 1ST060, 1ST061, 1ST860 and 1ST861 with 7.5 credits each. 1ST904 with 15 credits.

## Required Reading and Additional Study Material

**Required reading**

Anderson, D-R., Sweeney, D-J., Williams, T-A., Freeman, J. & Shoesmith, F. *Statistics for Business and Economics*. SouthWestern Cengage Learning. Latest edition. About 640 pages.

**Additional study material**

Statistical software online manual (this electronic resource is part of the Statistical software. The manual cannot, and should not, be bought).