Linnæus University

Course syllabus

School of Business and Economics
Department of Economics and Statistics

1ST904 Ekonomisk statistik, 15 högskolepoäng
Business Statistics, 15 credits

Main field of study
Statistics

Subject Group
Statistics

Level of classification
First Level

Progression
G1N

Date of Ratification
Approved by School of Business and Economics 2018-06-14
The course syllabus is valid from spring semester 2019

Prerequisites
General entry requirements and Civics 1b / 1a1 +1a2, Mathematics 3b / 3c or Civics A,
English B, Mathematics C (Field-specific entry requirements 4/A4).

Objectives
Module 1 Business Statistics I, 7.5 credits
After completing this module the student should be able to:

- discuss the meaning of statistical averages and dispersion
- describe the differences between point estimation and interval estimation
- explain the duality between statistical testing and interval estimation
- discuss the meaning and relevance of the central limit theorem
- present, summarise and analyse data using SPSS
- calculate simple probabilities
- test statistical hypotheses regarding averages
- assess the general usability and limitations of the statistical methods used in the course

Module 2 Business Statistics II, 7.5 credits
After completing this module the student should be able to:

- discuss the benefits and drawbacks of parametric and nonparametric methods
- explain the limitations of modelbased inference
- describe the sample methods that are included in the course
- carry out basic regression analyses using SPSS
- establish an adequate model for a given statistical problem
- detect an incorrectly specified model

- present a statistical analysis in a document
- assess the general usability and limitations of the statistical methods used in the course

Content
Module 1: Business Statistics I, 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 estimation of averages
- hypothesis testing of averages

Module 2: Business Statistics II, 7.5 credits
The module contains:

- correlation analysis
- multiple linear regression
- time series data
- nonparametric methods
- sample methodology

Type of Instruction
The following applies to both modules:
Teaching is in the form of lectures, seminars and group assignments. Group assignments are made up of, with help of statistical software, compiling, analyzing and presenting quantitative data material.

Teaching is carried out as distance learning with help from a learning platform and consists of self-studies based on instructions from the course coordinator, participation in web-based group discussions and writing of individual written reports. The course requires access to a computer and the internet. No mandatory meetings on campus are included. Mandatory parts are stated in the schedule.

Examination
The course is assessed with the grades A, B, C, D, E, Fx or F.
The following applies to both modules:
The course is examined through assignments and written exams.

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.

After each regular examination there will be at least one new examination in close proximity to the date the results of the regular exam were posted. Students who are close to the passing grade of reports can complement after instructions and time-frame given by the examiner to obtain a pass grade.

Grading criteria for the A–F scale are communicated in writing to the student by the start of the module at the latest.

Course Evaluation
During the implementation of the course or in close connection to the course a course evaluation is to be carried out. Result and analysis of the course evaluation is to be presented as feedback both to the students who have completed the course and to the

students who are to participate on the course the next time it is offered. The course evaluation is to be carried out anonymously.

Credit Overlap

The course cannot be included in a degree along with the following courses of which the content fully, or partly, corresponds to the content of this course:
The course overlaps 1ST060, 1ST061 7,5 hp with 100 % each.

Required Reading and Additional Study Material

Required reading

The following applies to both modules:

Anderson, D. R., Sweeney, D. J., Williams, T. A., Freeman, J. & Shoesmith, F. *Statistics for Business and Economics*. SouthWestern Cengage Learning. Latest edition. About 600 pages.