Syllabus
for course at first level

Statistics and data analysis II

Statistik och dataanalys II

15.0 Higher Education Credits

15.0 ECTS credits

Course code:	ST1201
Valid from:	Spring 2023
Date of approval:	2024-02-21
Department	Department of Statistics
Main field:	Statistics
Specialisation:	G1F - First cycle, has less than 60 credits in first-cycle course/s as entry requirements

Decision
This syllabus was approved by the Board of the Department of Statistics on June 6, 2010 and revised on March 12, 2014.

Prerequisites and special admittance requirements
Fundamentals of Statistics, first level, 15 ECTS credits or equivalent or admitted to the Bachelor Programme in Economics and Statistics.

Course structure

Examination code	Name	Higher Education Credits
11ST	SDA II, exam 1	7.5
12SI	SDA II, home assignment	2.5
13ST	SDA II, exam 2	3.5
14SI	SDA II, home assignment 2	1.5

Course content
The course consists of four course units:

1. Regression and Time Series Analysis
2. Hand-in assignment in Regression and Time Series Analysis
3. Survey Methods
4. Hand-in assignment in Survey Methods

Course units 1 and 2: Regression and Time Series Analysis

The course units treat basic statistical methods and models for analysis of relationships among variables (regression analysis) and analysis of the development of variables over time (time series analysis). Simple and multiple linear regression are studied in detail, other models such as logistic and nonlinear regression are presented more generally. Model evaluation. The course also gives an introduction to time series analysis. Predictions.

Course units 3 and 4: Survey Methods

The course units provide basic knowledge of how to plan and conduct statistical surveys, sampling methods

and survey methods.

The concepts more thoroughly treated are:
Planning, conducting and reporting of a statistical survey. Different methods for data collection and sources of information. Protection of statistical information. Questionnaire design. Different sampling- and estimation methods. Different types of error in a survey. Quality reporting. Practical examples from different areas of application and critical review.

Statistical software is used throughout the course.

The content of the course gives knowledge of great use for studies-, and applications of statistical methods in several fields.

Learning outcomes
To pass the course the student shall be able to:
- apply multiple linear regression analysis and basic time series analysis, with accompanying statistical inference and model evaluation
- account for more advanced regression models and time series models, such as logistical regression, decide when these models are applicable and analyse the results from studies where these models have been used
- plan a statistical survey including designing a questionnaire
- find arguments for- and conduct different types of random samplings
- solve elementary problems in sampling- and estimation theory
- account for concepts, methods and theories used when conducting statistical surveys

Education
The teaching forms consist of lectures and exercises.

Forms of examination
a. Examination will be done by assessing the learning outcomes. Examination will comprise written tests and written reports of group exercises.

b. Grading is done according to a seven-point scale related to the specified learning outcomes:
A = Excellent
B = Very Good
C = Good
D = Satisfactory
E = Adequate
Fx = Inadequate
F = Totally Inadequate

c. The assessment criteria for the course will be distributed at the beginning of the course.

d. In order to pass the course, the grade E or higher is required on course units 1 and 3 and Pass on course units 2 and 4.

e. Students who receive the grade Fx or F on an examination are entitled to at least four additional examinations as long as the course is still given. Students who receive the grade E or higher on an examination may not retake this examination in order to attempt to achieve a higher grade. Students who receive the grade Fx or F on an examination twice by the same examiner are entitled to request that a different examiner will be appointed to set the grade of the examination. Such a request must be in writing and sent to the head of the department. Here, the term examination denotes all compulsory elements of the course.
For every course date there should be two examination dates within the term.

Interim
Students can request examination in accordance with this syllabus once per semester during a period of three semesters after the course is no longer given. Such a request must be in writing and sent to the head of the department

Limitations
The course can not be included in a degree together with the course Regression Analysis and Survey Methods (ST 120G) 15 ECTS credits, or equivalent.

Required reading
The course literature is described in an appendix to the syllabus.