

Multiple Regression and Time Series Analysis

Regressions- och tidsserieanalys

7.5 credits

Single subject and programme course

732G93

Valid from: 2023 Spring semester

Determined by	Main field of study	
Course and Programme Syllabus Board at the Faculty of Arts and Sciences	Statistics	
Date determined	Course level	Progressive specialisation
2021-03-08	First cycle	G1F
Revised by	Disciplinary domain	
Course and Programme Syllabus Board at the Faculty of Arts and Sciences	Natural sciences	
Revision date	Subject group	
2022-05-03	Statistics	
Offered first time	Offered for the last time	
Spring semester 2022		
Department	Replaced by	
Institutionen för datavetenskap		

Course offered for

- Bachelor's Programme in Political Science and Economics

Entry requirements

- General entry requirements for undergraduate studies and English and Mathematics corresponding to the level in Swedish upper secondary education (Engelska 6 or Engelska nivå 2, Matematik 3b/3c or Matematik C)
- At least 1,5 ECTS credits passed in Statistics or equivalent

Intended learning outcomes

On completion of the course, the student should

- account for and apply the most common statistical inference methods in regression and time series analysis incl. time series linked to demand and index series
- assess which model is relevant for different data
- assess the quality of data and interpret the results of regression and time series analyzes
- analyze the data material using standard statistical software

Course content

The following is studied in the course

- Simple and multiple linear regression,
- Index theory and demand analysis,
- Descriptive time series analysis with decomposition and forecasting,
- Standard programs for regression and time series analysis are used in the course.

Teaching and working methods

Lectures, teaching sessions, individual and joint supervision, computer exercises and project work.

Language of instruction: Swedish.

In addition to this, the student must practice self-study.

Examination

The course is examined by:

- individual written exam, grading scale: UV
- oral and written presentation of project work in groups, grading scale: UG

For Passed final grade, Pass is required in all parts. For Pass with Distinction, Pass with Distinction is also required for the individual written examination.

Detailed information about the course can be found in the study instructions.

If special circumstances prevail, and if it is possible with consideration of the nature of the compulsory component, the examiner may decide to replace the compulsory component with another equivalent component.

If the LiU coordinator for students with disabilities has granted a student the right to an adapted examination for a written examination in an examination hall, the student has the right to it.

If the coordinator has recommended for the student an adapted examination or alternative form of examination, the examiner may grant this if the examiner assesses that it is possible, based on consideration of the course objectives.

An examiner may also decide that an adapted examination or alternative form of examination if the examiner assessed that special circumstances prevail, and the examiner assesses that it is possible while maintaining the objectives of the course.

Students failing an exam covering either the entire course or part of the course twice are entitled to have a new examiner appointed for the reexamination.

Students who have passed an examination may not retake it in order to improve their grades.

Grades

Three-grade scale, U, G, VG

Other information

Planning and implementation of a course must take its starting point in the wording of the syllabus. The course evaluation included in each course must therefore take up the question how well the course agrees with the syllabus.

The course is conducted in such a way that there are equal opportunities with regard to sex, transgender identity or expression, ethnicity, religion or other belief, disability, sexual orientation and age.

If special circumstances prevail, the vice-chancellor may in a special decision specify the preconditions for temporary deviations from this course syllabus, and delegate the right to take such decisions.

About teaching and examination language

The teaching language is presented in the Overview tab for each course. The examination language relates to the teaching language as follows:

- If teaching language is “Swedish”, the course as a whole could be given in Swedish, or partly, or as a whole, in English. Examination language is Swedish, but parts of the examination can be in English.
- If teaching language is “English”, the course as a whole is taught in English. Examination language is English.
- If teaching language is “Swedish/English”, the course as a whole will be taught in English if students without prior knowledge of the Swedish language participate. Examination language is Swedish or English depending on teaching language.