# Time Series Analysis

Single subject and programme course

7.5 credits

Time Series Analysis, fortsättningskurs

732G29

Valid from:

**Determined by**
The Quality Board at the Faculty of Arts and Sciences

**Date determined**
2008-12-20

# Main field of study
Statistics

# Course level
First cycle

# Advancement level
G1X

# Entry requirements
Specific requirements: Documented knowledge of English equivalent to “Engelska B” is required, or an international proficiency test, e.g. TOEFL, minimum score 550/213. The student must have passed courses in statistics corresponding to six months of studies.

# Intended learning outcomes
The course provides basic skills for professional work with data that are collected with time and in which the time aspect is of special importance, i.e. times series data. The work consists of exploration, modelling and assessment to detect and estimate different properties in the data.

Having completed the course, the student should be able to
- use knowledge about widely used models for times series data,
- display good understanding of major principles for interpretation, estimation and assessment of time series models,
- formulate a specific time series model upon exploration of a given data set,
- use a standard statistical computer package to estimate, assess and predict components of a time series model from a given data set,
- interpret the results from an analysis of a time series model,
- make reasoned assessment of the time development of certain quantities.

# Course content
The course content comprises
- time series regression models,
- classical descriptive models with methods for decomposition,
- forecasting with exponential smoothing,
- idenfication, estimation and forecasting with ARIMA-models for one time series,
- practical examples from mainly economics, business administration and environmental studies.

Standard statistical computer packages for time series analysis are used during the course.

## Teaching and working methods

The teaching of the course consists of lectures, supervision, seminars and computer exercises.
Language of instruction: English.

## Examination

Assignments encompassing computer-based data analysis. One final written or oral examination.

## Grades

ECTS, EC

## 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 carried out in such a way that both men´s and women´s experience and knowledge is made visible and developed.

## Department

Institutionen för datavetenskap