Course: Time Series Analysis

Teacher(s): Miroslav Ristić

Course status: elective

ECTS: 12

Prerequisites: -

Goal

Introduction of the main methods of time series analysis.

Outcomes

The students will master the macro and micro analysis of problems of time series analysis and applications of time series analysis methods in further researches.

Contents

Theoretical teaching

Statitionary time series models. Stationarity and strict stationarity. Stationary ARMA time series models. Predictions. Estimations of the unknown parameters of ARMA time series series. Multivariate time series models. Multivariate ARMA time series. Autoregressive time series with random coefficients. Minification time series models. Time series models with integer values.

Practical teaching

Construction and solving practical problems related to lecture subjects, manually and by using statistical software packages. Student research assignments.

Recommended bibliography

1. Brockwell, P.J., Davis, R.A., Time series: Theory and Methods, Springer-Verlag, New York, 1987.

2. Kedem, B., Fokianos, K., Regression Models for Time Series Analysis, John Wiley & Sons, 2005.

3. Wei, W.S., Time series analysis: univariate and multivariate methods, Pearson Addison Wesley, 2006.

4. Fuller, W.A., Introduction to statistical time series, John Wiley & Sons, 2009.

		Tractical.
Methods of teaching Lectures and practice, with active participation of the students, discussion, seminars.		

Knowledge estimation: (max 100 points)

50 points on pre-exam and 50 points on oral exam