

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Management	
Course ID: FM.KIS/115AB/16	Course title: Statistical Methods
Educational activities: Type of activities: lecture / seminar Number of hours: per week: 3 / 2 per level/semester: 42 / 28 Form of the course: on-site learning	
Number of credits: 5	
Recommended semester: 4.	
Educational level: I.	
Prerequisites:	
Course requirements: Course evaluation during the semester: 2 written test in the middle and at the end of the semester for 20 points (max. 40 points). The test can be taken in an alternate time during the semester, if the student proves his / her absence by a medicine confirmation. 4.) According to the University Act, a student can have max 2 absences (one on theoretical and one on practical exercises). Next absence will be evaluated by -1 point in the final assessment of each type of exercise. Assessment of the subject during the Examinations period: The final written exam (100 minutes) (max. 60 points) Exam: a student can complete 1 regular and one corrective term if he / she does not reach the required number of points to complete the course on the regular term. The student completes the course if he / she obtains at least 60% of points (ie 24 points) from the continuous assessment, so that he / she can go to the exam and min. 60% of the exam points (ie 36 points) to pass the exam. The points that the student obtains during the semester and in the exam are included in the final grade of the subject. Scale of assessment (preliminary/final): 40/60	
Learning outcomes: The objective of this course is to provide some knowledge of inferential statistical methods, course introduces into basic statistical tools useful for analyzing time series, and gain experience in managerial applications of various econometric methods.	
Class syllabus: 1. Introduction to the subject: The view of the methods of examining dependencies between statistical variables. 2. Analysis of dependence between qualitative variables - association (chi-quadrade test). 3. Analysis of variance - ANOVA. Parametric and nonparametric ANOVA methods. 4. Correlation analysis. Covariance and correlation matrix. 5. Regression analysis: Linear and nonlinear models. Simple linear model. Least squares method Strana: 2 (LSM).	

6. Multiple linear model. Methods of selecting variables for a model. Multicollinearity.
7. Introduction to stochastic processes: types of stochastic processes, stationary process, autocorrelation function.
8. Application of time series in management. Indices.
9. Decomposition of time series into components (multiplier, additive): trend, cycle, seasonality and random component. Subjective trend in the time series.
10. Estimation of trend using mathematical curves (line, parabola, Gompertz curve, exponential trend, logistic trend).
11. Moving averages method in determining the trend. Exponential smoothing.
12. Seasonal component in time series. Winterson method (additive, multiplier).
13. Random tests. Forecasting by time series analysis.

Recommended literature:

McClave J. T., Benson P. G., Sincich T.: Statistics for Business and Economics, Prentice-Hall, INC., 2001 <http://www.prenhall.com/mcclave/>

Wonnacot T. H., Wonnacot R. J.: Introductory Statistics. John Wiley and Sons; Third Edition edition (1977)

Hanke J. H., Reitsch A. G.: Understanding Business Statistics, Richard D. Irwin, INC., 1991
E-book: <http://www.statsoft.com/textbook/stathome.html>

Languages necessary to complete the course:

English

Notes:

Past grade distribution

Total number of evaluated students: 0

A	ABS	B	C	D	E	FX	M
0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0

Lecturers: doc. RNDr. Mária Bohdalová, PhD., doc. Ing. Mgr. Urban Kováč, PhD., David Balla

Last change: 13.10.2021

Approved by: