COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ ZSM/14	**Course name:** Basic Statistical Methods
Course type, scope and the method: **Course type:** Lecture **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of credits: 4	
Recommended semester/trimester of the course:	
Course level: N	
Prerequisities:	
Conditions for course completion: Working out an individual project.	
Learning outcomes: Understanding basics of descriptive statistics used in sciences.	
Brief outline of the course: • Process of measurement. Data types. Frequencies. • Basic characteristics of data: measures of location and variability, quantiles. • Basic probability distributions. • Point and interval estimators. • Testing of basic statistical hypotheses. Power of tests. • Measuring the strength of a dependence. Foundations of regression.	
Recommended literature: • Wonnacott, Wonnacott: Introductory Statistics, Wiley 1977 • Statsoft's Electronic Statistics Textbook (http://www.statsoft.com/Textbook), Statsoft, 2014	
Course language: Slovak	
Notes:	
Course assessment Total number of assessed students: 0	
Provides: doc. RNDr. Ivan Žežula, CSc.	
Date of last modification: 10.02.2014	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ MAD/14	**Course name:** Data Analysis and Modelling using CAS systems
Course type, scope and the method: **Course type:** Lecture **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of credits: 4	
Recommended semester/trimester of the course:	
Course level: N	
Prerequisities:	
Conditions for course completion: examination based on working-out the solution of a given real problem using a computer algebra system	
Learning outcomes: To provide knowledge and skills for mathematical modelling and data analysis using computer algebra systems.	
Brief outline of the course: The Maple and Mathematica CAS systems: comparison, environment, basic functionality and language syntax. Data import and export, visualizations and analyses. Basic and advanced techniques of mathematical modelling using CAS.	
Recommended literature: the reference manual to Maple / Mathematica I. Shingareva, C. Lizarrága-Celaya: Maple an Mathematica. A Problem Solving Approach for Mathematics, Springer-Verlag/Wien, 2007, 2009 A. Heck: Introduction to Maple, Springer-Verlag, New York, 2003	
Course language: Slovak or English	
Notes:	
Course assessment Total number of assessed students: 0	
Provides: doc. RNDr. Tomáš Madaras, PhD.	
Date of last modification: 10.02.2014	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ DAM/14	**Course name:** Data Mining
Course type, scope and the method: **Course type:** Lecture **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of credits: 4	
Recommended semester/trimester of the course:	
Course level: N	
Prerequisities:	
Conditions for course completion: Continuous assesment and a final project.	
Learning outcomes: Understanding of basic concepts of data mining and basic usage of freely available softwares. Practical skills for solving simple data mining tasks in small or medium siyed data sets (e.g. data from experiments measured for a final thesis).	
Brief outline of the course: basic data types and their pre-processing; regression and classification; clustering; mining frequent patterns and association rules; freeware data mining programs; the CRISP-DM methodology	
Recommended literature: 1. Jiawei Han, Micheline Kamber, Jian Pei. Data Mining: Concepts and Techniques. Morgan Kaufmann, ISBN 978-0123814791, 2011. 2. Pang-Ning Tan, Michael Steinbach, Vipin Kumar. Introduction to Data Mining. Addison-Wesley, ISBN 978-0321321367, 2005.	
Course language: Slovak	
Notes:	
Course assessment Total number of assessed students: 0	
Provides: RNDr. Tomáš Horváth, PhD.	
Date of last modification: 10.02.2014	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ VRS/14	**Course name:** Multivariate Statistical Methods
Course type, scope and the method: **Course type:** Lecture **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of credits: 4	
Recommended semester/trimester of the course:	
Course level: N	
Prerequisities:	
Conditions for course completion: Given at the basis of partial examination and working out an individual project.	
Learning outcomes: To learn to use the most widely used multivariate methods of data processing practically.	
Brief outline of the course: Multivariate data. Dependence measures. Contingency tables. Regression analysis. Logistic regression. Analysis of variance. Basics of time series. Cluster analysis.	
Recommended literature: 1. Ho, R.: Handbook of univariate and multivariate data analysis and interpretation in SPSS, Chapman & Hall/CRC, 2006 2. Garson, D.: PA 765 Statnotes: An Online Textbook (electronic textbook, http:// www2.chass.ncsu.edu/garson/pa765/statnote.htm), North Carolina State University, 1998	
Course language: Slovak	
Notes:	
Course assessment Total number of assessed students: 0	
Provides: RNDr. Daniel Klein, PhD.	
Date of last modification: 10.02.2014	
Approved:	