CONTENT

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty:	
Course ID: ÚMV/ ZSM/14	**Course name:** Basic Methods of Statistic
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 ECTS 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: 03.05.2015	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty:	
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 ECTS 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: 03.05.2015	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty:

Course ID: ÚMV/ MAD/14	**Course name:** Data Modelling and Analysis by Means of CAS Systems

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 3 **Per study period:** 42
Course method: present

Number of ECTS 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: 9

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Provides: prof. RNDr. Tomáš Madaras, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty:

Course ID: ÚMV/VRS/14

Course name: Multidimensional Statistical Methods

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 3 **Per study period:** 42
Course method: present

Number of ECTS 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, multivariate normal distribution. Different dependence measures. Contingency tables, odds and risk ratios. Logistic regression. Classification trees, cluster analysis, principal component analysis, multidimensional scaling, factor analysis, linear discriminant analysis.

Recommended literature:
1. Wolfgang Karl Härdle, Léopold Simar. Heidelberg: Applied multivariate statistical analysis, Springer, 2012
2. Wolfgang Härdle, Zdeněk Hlávka: Multivariate statistics: Exercises and solutions. New York: Springer, 2007
3. Ho, R.: Handbook of univariate and multivariate data analysis and interpretation in SPSS, Chapman & Hall/CRC, 2006
4. Garson, D.: PA 765 Statnotes: An Online Textbook (elektronická učebnica, 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: 14

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Provides: RNDr. Daniel Klein, PhD.

Date of last modification: 26.03.2019

Approved: