

COURSE DESCRIPTION

Academic year: 2025/2026	
University: Comenius University Bratislava	
Faculty: Faculty of Management	
Course ID: FM.KIS/281AM/21	Course title: Business Analytics and Decision Making
Educational activities: Type of activities: lecture / seminar Number of hours: per week: 2 / 2 per level/semester: 28 / 28 Form of the course: on-site learning	
Number of credits: 6	
Recommended semester: 1., 3.	
Educational level: I., II.	
Prerequisites:	
Recommended prerequisites: Information Systems and Application Software, Statistics, Mathematics, Financial Management	
Course requirements: COURSE ACTIVITIES Homework Most weeks you will have an assignment that is designed to assess your mastery of the topics and techniques covered the previous week and provide feedback to improve your understanding of the material. Homework assignments will be assessed. You may work with your colleagues to figure out the underlying concepts and problem-solving processes, but are expected to work individually to answer the specific problems that are assigned. Completed assignments can be submitted via e-mail. Timely submission of the completed assignments is essential. The due date of each assignment will be stated clearly in the assignment description. Group Project In groups of 2-3 you should prepare either a data-related project or a research paper. Additional detail about the group project will be provided via e-mail or at SharePoint of the FMCU. These projects should provide an opportunity for you to test your understanding of the techniques, processes, and problems associated with mobilizing raw data for use in individual and organization decision making. Scale of assessment (preliminary/final): Grading 40% Homework 40 pts 60% Group Project: Proposal 10 pts. Midterm report 10 pts. Final Poster/Presentation/Paper 30 pts. Answers to questions in discussion 10 pts.	
Learning outcomes: After completing this course you will be able to: - Select and evaluate various types of data to for use in decision making; - Use prescriptive and descriptive analyses to reach defensible, data-driven conclusions; - Select and apply appropriate statistical methods to address decision problems; - Use MS Excel or Wolfram Mathematica for data manipulation and analysis - Critically evaluate data analyses and develop strategies for making better decisions.	
Class syllabus: Introduction Some Basic Concepts: Measurement, Design, Validity Data Visualization Data Manipulation Probability and Significance (Sample, Population, CLT, Sampling Error) Hypothesis	

Testing (Power, Effect Size) Chi-squared, t-tests Analysis of Variance (ANOVA, Contrasts, Trends, Interactions) Correlations Multiple Regression (Sets of IVs, Nominal Scales, Interactions)

Recommended literature:

Readings and Online Resources: There are many good texts and online sources for information on decision-making, statistical techniques and data tools. Because each student's needs and interests will differ, none of these are explicitly required, but here are some you may find helpful.

Judgment and Decision Making: - The Psychology of Judgment and Decision Making (Scott Plous) McGraw-Hill - ISBN: 0070504776 - Thinking, Fast and Slow (Daniel Kahneman) Farrar, Straus and Giroux - ISBN: 0374275637 (Hardcover); 0374533555 (Paperback); 0385676514 (Kindle); 0739357980 (Audio). Statistics and Statistical Reasoning - HyperStat Online Statistics Textbook - <http://davidmlane.com/hyperstat/> - Williams, F. & Monge, P. (2001), Reasoning with Statistics: How to Read Quantitative Research (5th Edition), Harcourt College Publishers: Fort Worth, TX, ISBN 0-15-50681-6 - Rice Virtual Lab in Statistics - <http://onlinestatbook.com/rvls.html> - Online Statistics Education: An Interactive Multimedia Course of Study - <http://onlinestatbook.com/2/index.html> - Statistics to Use - <http://www.physics.csbsju.edu/stats/> - Statistica's StatSoft Electronic Statistics Textbook - The entire textbook can be downloaded for free. The parent website (<http://www.statsoftinc.com/>) has a link to StatSoft's public service textbook is available online. - Web interface for statistical education at Claremont Graduate School (<http://wise.cgu.edu/tutor.asp>) Excel Tutorials - Parsons, J.J. Oja, D. Ageloff, R. & Carey, P. New Perspectives on Microsoft Excel 2010: Comprehensive SPSS Tutorials - SPSS On-Line Training Workshop - <http://calcnet.mth.cmich.edu/org/spss/toc.htm> - Resources to help you learn and use SPSS - <http://www.ats.ucla.edu/stat/spss/> - Shannon, D.M. & Davenport, M.A. (2001) Using SPSS to Solve Statistical Problems: A Self Instruction Guide. Upper Saddle River NJ: Prentice Hall - SPSS Tools and Tips - <http://www.spsstools.net/> - IBM SPSS Guides - <http://www.norusis.com/index.php> Wolfram Mathematica Tutorials <http://library.wolfram.com/infocenter/Books/8501/> VARIAN, H.: Computational Economics and Finance Modeling and Analysis with Mathematica. Springer, 1996. ISBN 978-03-879-4518-7 WOLFRAM, S. 2015. An Elementary Introduction to the Wolfram Language. <http://www.wolfram.com/language/elementary-introduction/preface.html> <http://www.wolfram.com/learningcenter/tutorialcollection/> - Wolfram Mathematica Tutorial Collection from Wolfram Research (a collection of free downloadable pdf files)

Languages necessary to complete the course:

English

Ethics:

The syllabus lists knowledge, skills, competences and transferable skills that the students will acquire by successfully completing the course. These will impact on their personal development and can be used both in their future careers and in their lives as active citizens in democratic societies.

Following the provisions of Internal Regulation of the Comenius University Bratislava - Internal system of ensuring the quality of higher education of the Comenius University Bratislava, *each student consistently achieves his/her study results honestly during his/her studies; does not cheat or use dishonest procedures during any form of verification of his study knowledge and knowledge*. Cases of violation of this provision can be assessed as a violation of obligations arising from legal regulations (...). Such an assessment may be associated with applying relevant legal consequences on an academic, (...) or disciplinary level.

Following the provisions of Internal Regulation of the Comenius University Bratislava - Disciplinary regulations of the Comenius University Bratislava for students, *a student's disciplinary offence is any form of writing off or illegal cooperation or hinting during the written*

or oral evaluation of study results (knowledge verification) or during preparation for it within the course, or the use of technical devices or any information carriers in a way other than permitted during the written or oral evaluation of study results (knowledge verification) or during preparation for it within the subject. Some of the disciplinary measures may be imposed on the student for a committed disciplinary offence: reprimand, conditional expulsion from studies or expulsion from studies.

Notes:

Past grade distribution

Total number of evaluated students: 188

A	ABS	B	C	D	E	FX	M
53,72	0,0	12,23	11,7	6,91	10,64	3,19	1,6

Lecturers: PhDr. Ing. Monika Dávideková, PhD., prof. RNDr. Michal Greguš, PhD., Mgr. Eva Ticina, Ing. Oleksii Ilchenko

Last change: 23.09.2021

Approved by: prof. Mgr. Anna Lašáková, PhD.