

(Table 5.2) Course unit description

Study program: BS academic Computer Science Programme				
Type and level of studies: Academic, BS				
Course unit: Data Analysis and Visualization				
Teacher in charge: Miloš Ivanović				
Language of instruction: English				
ECTS: 5				
Prerequisites: Registered in appropriate semester, basic course in mathematical analysis passed.				
Semester: 3				
Course unit objective The aim of the course is to familiarize with the basic techniques of processing and visualization of data for the purpose of conducting qualitative and quantitative analysis and obtaining information. The student is acquainted with the basic principles of tabular data processing, allocation and presentation of the information in an understandable, efficient and effective way.				
Learning outcomes of Course unit The student mastered the basic terminology in the field of tabular processing and visualization of data, as well as the tools needed to carry out these procedures. The student understands the importance of data visualization and is capable of its correct application in qualitative and quantitative data analysis.				
Course unit contents <i>Theoretical classes:</i> Basic mathematical operations in the program package R. Linear algebra in R. Storage, compilation, and graphical representation of data. Different types of diagrams. Generating data from random distributions. Measures of central tendency. Detection of atypical values. Linear regression. Transformation of data. Basic statistic tests. <i>Practical classes:</i> Basic mathematical operations in the software package R. Linear algebra in R. Graphical representation of data. Filtering. Measures of central tendency. Generating data from random distributions. Detection of atypical values. Data transformation. Linear regression.				
Literature 1. Verzani, John. Using R for introductory statistics. CRC Press, 2014. 2. S. Few, Now You See It - Simple Visualization Techniques for Quantitative Analysis, Analytics Press, CA, USA, 2009.				
Number of active teaching hours 3				Other classes: 0
Lectures: 1	Practice: 2	Other forms of classes: 0	Independent work: 0	
Teaching methods A communication approach (interactive) based on activities in which students solve realistic problems.				

Examination methods (maximum 100 points)			
Exam prerequisites	No. of points	Final exam	No. of points
Practical classes	70	Written examination	30
Tests	66	Oral examination	
Homework	4	Other	
Seminars			
Project			
Grading system			
Grade	No. of points	Description	
10	>= 91	Excellent	
9	81-90	Exceptionally good	
8	71-80	Very good	
7	61-70	Good	
6	51-60	Passing	
5	<=50	Failing	