

Name of university, Name of faculty: Trnava University
Faculty of Health Care and Social Work

INFORMATION SHEET OF THE SUBJECT

Code: LMbEE47		Name: Data analysis			
Cover: Department of Theoretical Disciplines and Laboratory Investigation Methods					
Type of educational activity: Practise Scope of educational activity (in hours): Weekly: - For term of study: ZS 36 Method of educational activity:				Number of credits: 3 Recommended semester: WT Study grade: 1. PO	
Recommended semester	Study programme				
3.year WT	Laboratory Medicine (E1-LVMvZ-23)				
Underlie subjects:					
Conditions for passing the course: Method of evaluation: Completion by taking an examination Continuous evaluation: none Final evaluation: - written test (practical exam) in which students demonstrate their theoretical knowledge and practical skills in analytical statistics in R-Project Method of completion: written examination Evaluation: A: 100 – 95%; B: 94 – 89%; C: 88 – 83%; D: 82 – 77%; E: 76 – 71%; FX: 70% and less Finished: exam - written test					
Learning outcomes: VV1 After completing the course, the student will acquire basic knowledge of the theory of experimental/epidemiological data analysis VV2 After completing the course, the student will acquire practical skills in the field of analytical statistics implemented in R-Project, including the ability of statistical inference and interpretation of results VV3 The student is able to process, analyse and evaluate epidemiological data in R-Project VV4 The student is able to interpret processed data and understands the different types of statistical tests in R-Project VV5 The student can apply the acquired knowledge of descriptive and analytical statistics to laboratory practice					
Schedule of subject: 1) Introduction to data analysis, Basics of hypothesis testing 2) Hypothesis testing – normality of data setout 3) Comparison of proportions/numerosity – Chi-square test 4) Comparison of proportions/numerosity – Fisher test, McNemar’s test 5) Testing the hypothesis about averages – T-test 6) Testing the hypothesis about averages – Anova test 7) Testing the hypothesis about medians – Wilcoxon test 8) Testing the hypothesis about medians – Kruskal-Wallis test 9) Pair tests 10) Correlation and dependency graph 11) Simple linear regression 12) Choosing and justifying the optimal statistical analysis algorithm					
Recommended reading: 1) KABACOFF, R.I.: R in Action. Data analysis and graphics with R. USA: MANNING, 2011. / Moodle / 2) PROCHÁZKA, B.: Biostatistika pro lékaře. Principy základních metod a jejich interpretace s využitím statistického systému R. Praha: Karolinum, 2015. ISBN 9788024627823. 3) RUSNÁK, M.- RUSNÁKOVÁ, V.- MAJDAN, M.: Bioštatistika pre študentov verejného zdravotníctva. Trnava: Trnavská univerzita v Trnave, 2010, ISBN 9788080823320. 4) The R Graph Gallery / online: https://www.r-graph-gallery.com/					
Language requirements: Slovak					
Notes: The daily combined method consists of: practise /attend, on-line/ Self-study is supported by e-learning. 100% participation is required.					
Course evaluation: Assessed students in total: 2					
A	B	C	D	E	FX
0%	0%	100%	0%	0%	0%

Lecturers:

PhDr. Denisa Benedek Jakubcová, PhD., MPH, examiner, instructor

Date of last change: 01.09.2026

Approved by: doc. Ing. Stanislava Blažíčková, PhD., MPH, univ.prof.