

INFORMATION SHEET OF THE SUBJECT

Code: VZM01		Name: Analysis of epidemiological data I.	
Cover: Department of Public Health			
Type of educational activity: Seminar, Practise		Number of credits: 5	Recommended semester: WT
Scope of educational activity (in hours): Weekly: 2/2 For term of study: ZS 46,46			Study grade: Master
Method of educational activity:			
Recommended semester	Study programme		
1.year WT	Public Health (D2-VZ-22) Public Health (D2-VZ-22-K)		
Underlie subjects:			
Conditions for passing the course: Method of evaluation: Completion by taking an examination			
Continuous evaluation: Final evaluation: Written test, pass mark of at least 71% for a grade of E (40% of the overall grade); final assignment pass mark of at least 71% for a grade of E (60% of the overall grade).			
At least 95% of the marks must be obtained for an A grade, 89% for a B grade, 83% for a C grade, 77% for a D grade and 71% for an E grade.			
The student has the option of one absence without giving a reason. In case of further absences, he/she will be assigned a substitute task.			
Finished: The course is completed with a final examination. In case of e-learning: final test via MOODLE.			
Learning outcomes: Upon completion of the course, students will be able to process, analyse, evaluate and interpret epidemiological data in the programming environment R. Students will learn variable analysis, basic descriptive statistics, and how to use statistical tests to test statistical hypotheses.			
Schedule of subject: Seminars: 1. R programming environment 2. Data editing and distribution 3. Creation of subsets and variables 4. Data descriptions and graphical representation of data Part 1 5. Data descriptions and graphical representation of data Part 2 6. Statistical hypothesis testing 7. Parametric and non-parametric statistical methods 8. Chi-square and Fisher's exact test 9. T-test, Wilcox and Mann-Whitney test 10. ANOVA and Kruskal-Wallis test 11. Optimal statistical analysis algorithm selection and reasoning Part 1 12. Optimal statistical analysis algorithm selection and reasoning Part 2 Exercises: 1. Introduction to the R programming environment 2. Modification and distribution of data in the R programming environment (types of variables) 3. Summarization of the variables in the R programming environment 4. Measures of central tendency and dispersion in the R programming environment 5. Graphical representation of data in the R software environment 6. Testing statistical hypotheses in the R software environment 7. Normality tests in the R software environment 8. Chi-square and Fisher's exact test, their use and interpretation 9. T-test, Wilcoxon and Mann-Whitney test, their use & interpretation 10. ANOVA and Kruskal-Wallis test, their use and interpretation 11. Optimal statistical analysis algorithm selection and reasoning Part 1 12. Optimal statistical analysis algorithm selection and reasoning Part 2			
Recommended reading: 1. Rusnák, M. – Rusnáková, V. – Majdan, M. 2010. Bioštatistika pre študentov verejného zdravotníctva. 1. vyd. Trnava: Typi Universitatis Tyrnaviensis, spoločné pracovisko Trnavskej univerzity v Trnave a VEDY, vydavateľstva Slovenskej akadémie vied, 2010. 216 s. ISBN 978-80-8082-332-0. 2. Somorčík, J. – Teplička, I. 2015. Štatistika zrozumiteľne. Enigma, 2015. 244 s. ISBN 978- 80-8133-042-1. 3. Rusnák, M. – Rusnáková, V. – Psota, M. 2013. Štatistika zdravia. 1. vyd. Trnava: Typi Universitatis Tyrnaviensis, spoločné pracovisko			

Trnavskej univerzity v Trnave a VEDY, vydavateľstva Slovenskej akadémie vied, 2013. 235 s. ISBN 978-80-8082-732-8.

4. Learning materials available on: http://fzsp.truni.sk/sites/default/files/dokumenty/e-kniznica/e-ucebnice/Anal%C3%BDza-epidemiologick%C3%BDch-d%C3%A1t_frameset%20-%20EPSTRUNI%20%28HTML%29/index.html.

5. Learning materials available on: <https://moodle.truni.sk/>.

Language requirements: Slovak

Notes:

Day form, full-time method of education: 2 S / 2 E per week

Day form, combined method of education: 24 h of seminars via assignment on Moodle / 24 h present form exercises per semester

Course evaluation:

Assessed students in total: 347

A	B	C	D	E	FX
23%	23%	21%	14%	9%	11%

Lecturers:

Mgr. Juliana Melichová, PhD., MPH, examiner, instructor, seminary supervisor

Date of last change: 01.09.2026

Approved by: prof. PhDr. Marek Majdan, MSc., PhD.