

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

### INFORMATION SHEET OF THE SUBJECT

<b>Code:</b> LMPe11	<b>Name:</b> Biostatistics in Laboratory Medicine				
<b>Cover:</b> Department of Theoretical Disciplines and Laboratory Investigation Methods					
<b>Type of educational activity:</b> Lecture				<b>Number of credits:</b> 5	<b>Recommended semester:</b> ST
<b>Scope of educational activity (in hours):</b>					<b>Study grade:</b> PhD. Study
<b>Weekly:</b> - <b>For term of study:</b> LS 24					
<b>Method of educational activity:</b>					
Recommended semester	Study programme				
1.year ST	Laboratory Medicine (E3-LVMvZ-22)				
<b>Underlie subjects:</b>					
<b>Conditions for passing the course:</b>					
<b>Method of evaluation:</b> Completion by taking an examination					
<b>Continuous evaluation:</b> none					
<b>Final evaluation:</b> Completion of the final assignment consists of:					
- preparation of the Dissertation Methodology, in which the student describes how the data will be collected, the type of data which student will work with and the expected work procedure of processing and analyzing the data, in regard to the planned use of specific statistical tests (max. 30% of evaluation)					
- preparation of a professional publication containing essential parts of the scientific article / introduction, methods, results, discussion, and conclusions, literature / focusing on Methodology and Results (max. 70% of evaluation)					
Evaluation: A: 100 – 95%; B: 94 – 89%; C: 88 – 83%; D: 82 – 77%; E: 76 – 71%; FX: 70% and less					
<b>Finished:</b> exam - final assignment					
<b>Learning outcomes:</b>					
VV1 The student will be able to apply the acquired knowledge of descriptive and analytical statistics in laboratory practice					
VV2 The student will know the statistical programs, which can be used for statistical analysis of data during or after the study					
VV3 The student will be able to statistically process, evaluate and interpret the epidemiological data of the practical dissertation part					
VV4 The student will be able to statistically process epidemiological data and can prepare the result part of the professional publication					
<b>Schedule of subject:</b>					
1) Importance of Biostatistics and practical use of statistical methods in laboratory medicine					
2) Descriptive statistics in laboratory medicine					
3) Analytical statistics in laboratory medicine					
4) Statistical analysis software – most used software					
5) Data processing fundamentals with MS Excel – descriptive statistics and graphical display					
6) Data processing fundamentals with MS Excel – analytical statistics					
7) Data processing fundamentals with R-Project – descriptive statistics and graphical display					
8) Data processing fundamentals with R-Project – analytical statistics					
9) Data processing fundamentals with IBM SPSS Statistics – descriptive statistics and graphical display					
10) Data processing fundamentals with IBM SPSS Statistics – analytical statistics					
11) Online statistical tools					
12) Appropriateness of data processing and interpretation – rules and recommendations					
<b>Recommended reading:</b>					
1) E-learningový - školiaci kurz pre Office / online: <a href="https://support.microsoft.com/sksk/office">https://support.microsoft.com/sksk/office</a>					
2) IBM SPSS Statistics 28 Documentation / online: <a href="https://www.ibm.com/support/pages/node/6442933#en">https://www.ibm.com/support/pages/node/6442933#en</a>					
3) LEPŠ, J. - ŠMILAUER, P.: Bioštatistika. České Budejovice: EPISTEME, 2016, ISBN 9788073945879.					
4) PROCHÁZKA, B.: Biostatistika pro lékaře. Principy základních metod a jejich interpretace s využitím statistického systému R. Praha: Karolinum, 2015, ISBN 9788024627823.					
5) The R Graph Gallery / online: <a href="https://www.r-graph-gallery.com/">https://www.r-graph-gallery.com/</a>					
<b>Language requirements:</b> Slovak					
<b>Notes:</b>					
Method of teaching: combined (attend, on-line, distance, self-study)					
Self-study is supported by the e-learning form.					
100% participation is required.					
<b>Course evaluation:</b>					
Assessed students in total: 3					
A	B	C	D	E	FX
100%	0%	0%	0%	0%	0%

**Lecturers:**

RNDr. Vojtech Boldiš, PhD., lecturer, examiner

**Date of last change:** 01.09.2025

**Approved by:** prof. RNDr. František Ondriska, PhD.