CONTROL AND MEASURING DEVICES

Questions of the program for border control 2

Course: Project activities and biostatistics

Course code de PAB 2303

Educational program: 6B10115 "Medicine"

Number of academic hours/credits: 150/5

Year/Term: 2/4

Compiler: PhD, ass. prof M.B. Ivanova

Head of department, ass. prof, _____ M.B. Ivanova

Protocol no. 12 from "28" 05 2025 y.

1. Differences between parametric and nonparametric tests.
2. Mann–Whitney two-sample test.
3. Conditions for applying the Mann–Whitney two-sample test.
4. Wilcoxon signed-rank test.
5. Conditions for applying the Wilcoxon signed-rank test.
6. *Nonparametrics* module in the STATISTICA software.
7. Interpretation of the *p*-value for the Mann–Whitney test in STATISTICA.
8. Interpretation of the *p*-value for the Wilcoxon test in STATISTICA.
9. Contingency tables ($m \times n$).
10. Contingency tables (2×2).
11. Pearson's chi-square test.
12. Yates' correction.
13. McNemar's chi-square test.
14. Pearson's chi-square test in STATISTICA.
15. Interpretation of the *p*-value for Pearson's chi-square test in STATISTICA.
16. McNemar's chi-square test in STATISTICA.
17. Interpretation of the *p*-value for McNemar's test in STATISTICA.
18. Correlation. Direction of correlation.
19. Conditions for calculating correlation.
20. Pearson's pairwise correlation coefficient.
21. Interpretation of Pearson's pairwise correlation coefficient.
22. Assessment of the statistical significance of the correlation coefficient.
23. Spearman's rank correlation coefficient.
24. Interpretation of Spearman's rank correlation coefficient.
25. Organization of a medical and statistical study.
26. Overview of statistical software packages used in biostatistical research.
27. Regression analysis: purpose of the method, basic concepts. Examples.
28. Types of regression. Examples.
29. Construction of a linear equation of simple regression using the least squares method. Example.
30. Testing the significance of regression coefficients. Example.
31. Testing the significance of the regression equation. Example.
32. Performing regression analysis in the STATISTICA software.