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|  | | | **UNIVERSITY OF EAST SARAJEVO**  Faculty of Medicine Foča | | | | | | | | | | | logo | | |
| ***Nursing*** | | | | | | | | | | |
| I study cycle | | | | | | II study year | | | | |
| **Full subject title** | | | Health Statistics | | | | | | | | | | | | | |
| **Department** | | | Department of Primary Health Care and Public Health, Faculty of Medicine Foča | | | | | | | | | | | | | |
| **Subject code** | | | | | | **Subject status** | | | | | **Semester** | | | **ECTS** | | |
|
| NU-05-1-021-4 | | | | | | compulsory | | | | | IV | | | 2 | | |
| **Professor/ -s** | | Associate professor Srđan Mašić, PhD, Full professor Nataša Milić, PhD | | | | | | | | | | | | | | |
| **Associate/ - s** | | Senior assistant Dragan Spaić | | | | | | | | | | | | | | |
| **Number of lectures/ teaching workload (per week)** | | | | | | | **Individual student workload (in hours per semester)** | | | | | | | | **Coefficient of student workload So[[1]](#footnote-1)** | |
| **L** | **AE** | | | | **SP** | | **L** | | | **E** | | **SP** | | | **So** | |
| 1 | 1 | | | | 0 | | 15 | | | 15 | | 0 | | | 1 | |
| total teaching workload (in hours, per semester)  15+15+0=30 | | | | | | | | total student workload (in hours, per semester)  15+ 15+0=30 | | | | | | | | |
| Total subject workload (teaching + student): 30+ 30= 60 hours per semester | | | | | | | | | | | | | | | | |
| **Learning outcomes** | | After completing and passing the exam, the student will:   1. Acquire knowledge and skills in using statistical tools necessary for data collection. 2. Analyze and interpret the collected data. 3. Make conclusions in the process of providing healthcare. 4. The acquired knowledge and skills will be applied in all medical disciplines during and after the studies | | | | | | | | | | | | | | |
| **Preconditions** | | No preconditions | | | | | | | | | | | | | | |
| **Teaching methods** | | Lectures, exercises, practical work | | | | | | | | | | | | | | |
| **Subject content per week** | | **Lectures**:   1. Introduction to Statistics, Definition, Development, Classification, Statistical Method and Statistical Methodology, Basic Statistical Terms, Statistical Set, Units of Observation, Characteristics of Observation. 2. Data Organization: Grouping, Tabulation, Graphical Representation, Frequency, Frequency Distribution. 3. Statistical Description: Relative Numbers, Measures of Central Tendency, Measures of Variability. 4. Probability: Basic Concept, Key Terms, Laws of Probability, Arithmetic Operations with Probability. 5. Binomial and Normal Probability Distributions. 6. Sample: Types of Samples, Selection of Units of Observation for the Sample, Random Number Tables, Sample Size. 7. Estimation Based on the Sample: Standard Error, Confidence Intervals. 8. Statistical analysis: conclusion in statistics, probability of security, probability of error, level of significance. Definition and division of analytical methods. 9. Hypothesis Testing: Examination of Empirical Distribution Forms, Evaluation of Significance of Difference, Evaluation of Connection. Zero and labor hypothesis, choice of significance level, theoretical value of the methods, limit values ​​tables, and statistical conclusions. Errors in conclusion. 10. Methods for estimating the significance of the difference - statistical tests. Parametric tests, Z-test, T-test. 11. Non-parametric ranking tests: test sign, equivalent pair test, ranking sum test. 12. Non-parametric tests based on frequency analysis: Hi-square test; stacking test; contingency tables; Fischer test; median test; Mac-Nemer test 13. Linkage Testing: Definition, objective, application conditions. Diagram of dispersion, determination coefficient and coefficient of single linear correlation. 14. Linear regression and linear trend. 15. Non-parametric correlation, Spirman's correlation coefficient of rank.   **Exercises:**   1. Data Organization: Grouping and Tabular Presentation of Data. 2. Data Organization: Graphical Presentation, Frequency, Frequency Distribution. 3. Statistical description: Relative numbers, central tendency measures, variability measures 4. Probability: Basic Concept, Key Terms, Laws of Probability, Arithmetic Operations with Probability. 5. Binomial and normal distribution of probability. 6. Sample: Types of Samples, Selection of Units of Observation for the Sample, Random Number Tables, Sample Size. 7. Sample Estimation: Standard error, confidence intervals. 8. Statistical analysis: conclusion in statistics, probability of security, probability of error, level of significance. Definition and division of analytical methods. 9. Hypothesis Testing: Examination of Empirical Distribution Forms, Evaluation of Significance of Difference, Evaluation of Connection. Zero and labor hypothesis, choice of significance level, theoretical value of the methods, limit values ​​tables, and statistical conclusions. Errors in conclusion 10. Methods for estimating the significance of the difference - statistical tests. Parametric tests, Z-test, T-test. 11. Non-parametric ranking tests: test sign, equivalent pair test, ranking sum test. 12. Non-parametric tests based on frequency analysis: Hi-square test; stacking test; contingency tables; Fischer test; median test; Mac-Nemer test 13. Linkage Testing: Definition, objective, application conditions. Diagram of dispersion, determination coefficient and coefficient of single linear correlation. 14. Linear regression and linear trend. 15. Non-parametric correlation, Spirman's correlation coefficient of rank. | | | | | | | | | | | | | | |
| **Compulsory literature** | | | | | | | | | | | | | | | | |
| **Author/s** | | | | **Publication title/Publisher** | | | | | | | | | **Year** | | **Pages (from-to)** | |
| Stephen J, et al. | | | | Medical Statistics: A Textbook for the Health Sciences 5th Edition | | | | | | | | | 2021. | |  | |
| **Additional literature** | | | | | | | | | | | | | | | | |
| **Author/s** | | | | **Publication title/Publisher** | | | | | | | | | **Year** | | **Pages (from-to)** | |
|  | | | |  | | | | | | | | |  | |  | |
| **Student responsibilities, types of student assessment and grading** | | **Grading policy** | | | | | | | | | | | **Points** | | **Percentage** | |
| Pre-exam activities | | | | | | | | | | | | | | |
| lecture/exercise attendance | | | | | | | | | | | 6,5 | | | 6,5% |
| tests | | | | | | | | | | | 13,5 | | | 13,5% |
| seminar paper | | | | | | | | | | | 10 | | | 10% |
| colloquium | | | | | | | | | | | 20 | | | 20% |
| Final exam | | | | | | | | | | | | | | |
| written | | | | | | | | | | | 50 | | | 50% |
| TOTAL | | | | | | | | | | | 100 | | | 100 % |
| **Certification date** | | December 2024. | | | | | | | | | | | | | | |

1. The coefficient of student workload So is calculated as it follows:

   а) for the study programs not going through the licensing process: So = (total workload in semester for all of the subjects 900 hrs – total teaching workload L+E in semester for all of the subjects 870 hrs)/ total teaching workload L+E in semester for all of the subjects \_\_\_\_\_ hrs = \_\_\_\_. Consult form content and its explanation.

   b) for the study programs going through the licensing process, it is necessary to use form content and its explanation. [↑](#footnote-ref-1)