St. Kliment Ohridski University

Faculty of Technology and Technical Sciences

Course catalogue
TTF-NUT404 Biostatistics

Programme	Nutrition
Level	Bachelor's programme
Academic year Semester	IV year Autumn Semester
ECTS credits	6 credits
Lecturers	Assoc. Prof. Dr.sc Vesna Knights
Language	Macedonian/English

Objective	The objective of the course is to have knowledge and understanding of specific and general skills and knowledge of using data. Collect and interpret results obtained by methods which assess diet quality of healthy population groups interpret data obtained by laboratory methods in food analysis and nutrition.
Content	Definition of statistics. Statistics in scientific research. Graphic view of data. Average sample values. Measures of dispersion or variability. Measures of location. Measures of shape. Linear regression. (Pearson) coefficient of correlation. Computer implementation with the help of the MS Excel program package. A random trial. Probability. Setting probability. Laplace's probability model. Combinatorics. Combinatorial application to solve elementary probability problems. Conditional probability. Independent Bernoulli random variables, Poisson random variables, Hypergeometric random variables). Continuous random variables (Normal random variables).A random sample. Point estimation of population mean and variance Confidence intervals for means of a normal population. Confidence intervals for means based on large samples. Testing hypothesis about population mean of a normally distributed population. Testing hypothesis about population mean based on large samples. Comparing two means of two normally distributed populations (t-test). Comparison of proportions. Comparing two population variances of normally distributed populations (F-test). X2-test for goodness of fit. X2-homogeneity test popu lation. One-way ANOVA test. The correlation test of two variables. Linear regression model. Testing of statistical hypotheses by using the MS Excel program package.
Learning materials	Reading from the primary literature are referenced in class and posted to the course website.

1. Paul Newbold, William L.Carlson, Betty Mthrone. "Statistics for business and economists, published by Pearson Education Inc.,2007. *ISBN 978-9989-183-99-7.*
2. Montgomery, D.C. Design and Analysis of Experiments, 5th ed. John Wiley and Sons Inc., New York, 2001.
3. R. Lyman Ott; Michael Longnecker. An introduction to statistical methods and data analysis. 7th edition, (2013). ISBN-13: 978-1-305-26947-7