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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | |  | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | **Pharmacy** | | |
| Study Module (if applicable) | | | |  | | |
| Course title | | | | **STATISTICS IN PHARMACY** | | |
| Level of study | | | | Bachelor **X** Master’s Doctoral | | |
| Type of course | | | | **x** Obligatory Elective | | |
| Semester | | | | Autumn **X** Spring | | |
| Year of study | | | | III | | |
| Number of ECTS allocated | | | | 2 | | |
| Name of lecturer/lecturers | | | | Prof. dr Zoran Milošević, Doc dr Miodrag Stojanović,  Ass dr Aleksandra Ignjatović | | |
| Teaching mode | | | | **x**Lectures **x**Group tutorials **x** Individual tutorials  ☐Laboratory work ☐ Project work **x** Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| Introduction to statistical methodology, from the description of a phenomenon (arrangement and presentation of data), calculation of central tendency measures and variability measures), to the application of analysis and conclusions (null hypothesis testing using parametric and non-parametric tests; calculation of correlation and assessment of the sample-based parameters of basic set. | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| Upon completion of the course, students will have gained good command of:   * data collection methodology; * data arrangement and presentation methodology; * data analysis using statistical methodology; * use of PCs in date processing;   presentation and interpretation of results.  *Theory*  Introduction – definition, study contents, significance of statistics in medical profession, probability theory, and law of large numbers.  Descriptive analysis – plan of a statistical research, methods of collection, arrangement, and presentation of results, relative numbers, graphical representation. Measures of central tendency and variability (mean, median, mode, variation interval, interquartile range, variance and standard deviation, coefficient of variation, Z-value).  Distribution of frequency and probability – random variables, mathematical models of frequency distribution, assessment of the parameters of basic set based on the sample, student’s t-distribution.  Formulation and testing of hypothesis – null and alternative hypothesis, choice of significance test, student’s t-test.  Variance analysis. ANOVA  Chi-square test – test of distribution form, independence test, test of homogeneity, and additive property of chi-square test.  Regression analysis and linear correlation – dependence or correlation, regression analysis, strength of determination and correlation. Pearson’s coefficient of linear correlation and its significance testing.  Spearman’s rank correlation coefficient. Multiple correlation.  Selection of non-parameter tests.  Linear trend of time series. | | | | | | |
| **LANGUAGE OF INSTRUCTION** | | | | | | |
| **x**Serbian (complete course) **x** English (complete course) **x** Other \_\_Italian\_\_ (complete course)  ☐Serbian with English mentoring ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| **ASSESSMENT METHODS AND CRITERIA** | | | | | | |
| **Pre exam duties** | **Points** | | **Final exam** | | | **points** |
| **Activity during lectures** | **up to 10** | | **Written examination** | | | **up to 50** |
| **Practical teaching** | **up to 10** | | **Oral examination** | | |  |
| **Teaching colloquia** | **up to 30** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |