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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | |  | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | **Medicine** | | |
| Study Module (if applicable) | | | |  | | |
| Course title | | | | **Medical statistics and Informatics** | | |
| Level of study | | | | **x** Bachelor Master’s Doctoral | | |
| Type of course | | | | **x** Obligatory Elective | | |
| Semester | | | | **x** Autumn Spring | | |
| Year of study | | | | I | | |
| Number of ECTS allocated | | | | 5 | | |
| 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)** | | | | | | |
| Acquisition of good command of statistical methodology from the description of observed phenomenon (arrangement and presentation of data; calculation of measures of central tendency and variability) to the use of analysis and conclusions (null hypothesis testing by way of parametric and non-parametric tests; calculation of the degree of correlation and assessment of the parameters of basic set based on the sample), as well as the command of statistical packages (SPSS, Statcalc) and programs for table and graphical representation of data (MS Excel). | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| *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.  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.  *Practice*  On real examples, instruct the students about the technique of sample selection, arrangement & presentation of data, as well as the techniques of use of parametric and non-parametric tests, assessment of arithmetic mean of basic set based on arithmetic mean of samples, and correlation analysis. Instruction as to the use of statistical packages (SPSS, Statcalc) and programs for table and graphical representation of data (MS Excel). | | | | | | |
| **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** | | | | | | |