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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Technology |
| **GENERAL INFORMATION** |
| Study program  | **Food technologies and biotechnology; Chemical technologies; Textile technologies** |
| Study Module (if applicable) | Food technology module, Biotechnology module; Pharmaceutical and cosmetic engineering module, Organic chemical technology and polymer engineering module, Ecological engineering module; Textile engineering module, Industrial design of textile products module |
| Course title | Mathematical processing of experimental data |
| Level of study | ☐Bachelor ☒ Master’s ☐ Doctoral |
| Type of course | ☒ Obligatory☐ Elective |
| Semester  | ☒ Autumn ☐Spring |
| Year of study  | 5th |
| Number of ECTS allocated | 6 ECTS |
| Name of lecturer/lecturers | Marija Stojanović Krasić  |
| Teaching mode | ☒Lectures ☐Group tutorials ☐ Individual tutorials☐Laboratory work ☐ Project work ☐ Seminar☐Distance learning ☐ Blended learning ☒ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Realisation of the position and role of measuring and processing the measured data in process engineering. Acquiring knowledge in statistic analysis with reference to the experiment planning, statistic deduction and estimation of model parameters. Demonstration of software packages from the statistic analysis of data. Mastering and using statistic theory, error theory and standardized software tools for individual planning of experiments.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Lectures:**1. **Descriptive data analysis; Basic statistic terms; Methods of registering the data (2); (2) Measures of data tendency (2); 3) Basics of theory of probability (2); 4) Random variables and their distribution; Discrete random variable and its distribution (2); 5) Continuous random variable and its distribution (2); 6) Multidimensional random variable and its distribution; Distribution of some functions of random variables (2); 7) Sample and population; Simple random sampling; Statistics (2); 8) Assessment theory; Dotted evaluations of expected values and variations; Evaluation of parameters of some distribution. Comparison of evaluations according to efficiency (2); 9) Interval assessment of population parameters (interval of trust for expected value, variation and probability (2); 10) Analysis of error measuring; The cause for error measuring; Accuracy and precision of measuring; Error of indirectly measured values (2); 11) Testing the hypotheses; Parameters tests (test of expected value, variation and probability) (2); 12) Tests for parameters of two samples (2); 13) Single factorial analysis of variation (2); 14) Non-parametric tests (2); 15) Correlation and regression (2);**

**Other: calculation exercises:**1. **Descriptive data analysis (6); 2) Basics of theory of probability (3); 3) Random variables and their distribution (9); 4) Assessment of population parameters (9); 5) Analysis of error measuring (3); 6) Testing the hypotheses (9); 7) Correlation and regression (6);**
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| **LANGUAGE OF INSTRUCTION** |
| ☒Serbian (complete course) ☐ English (complete course) ☐ Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)☐Serbian with English mentoring ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points** | **Final exam** | **points** |
| **Activity during lectures** | **5** | **Written examination** |  |
| **Practical teaching** | **5** | **Oral examination** | **30** |
| **Teaching colloquia** | **60** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |