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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of sciences and mathematics |
| **GENERAL INFORMATION** |
| Study program  | **Mathematics** |
| Study Module (if applicable) | Probability, Statistics and Financial Mathematics |
| Course title | Sampling theory and design of experiments |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | 1 |
| Number of ECTS allocated | 7.5 |
| Name of lecturer/lecturers | Aleksandar S. Nastić |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Introduction to basic and new concepts and techniques in the theory of samples and design of experiments.**Analysis of data using techniques of the theory of samples and planning experiments.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **THEORY OF SAMPLES****Random number. Planning a model. Random sampling with and without return. Sample with different probabilities. Sampling from a finite population. Stratified, group and systematic sample. Multistage sample.****PLANNING OF EXPERIMENTS****Completely random plan. Random blocks, random blocks with complete and incomplete information. Direct methods. Constant methods. Latin squares. Statistical analysis of the data collected under one of the plans. Factorial experiment.** |
| **LANGUAGE OF INSTRUCTION** |
| [x] 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** | **10** | **Written examination** | **40** |
| **Practical teaching** |  | **Oral examination** | **50** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |