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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Electronic Engineering |
| **GENERAL INFORMATION** |
| Study program  | **Electronics and Microsystems** |
| Study Module (if applicable) | Electronics |
| Course title | Probability and Statistics  |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | I |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Dušan M. Milošević  |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Theoretical and basic knowledge in the probability theory and statistics .*  |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **"Definitions of probability. Random variables. Discrete and continuous random variables. Function, the law of probability and probability density. Multivariate random variables. Conditional distributions and independence of random variables. Numerical characteristics of random variables. Mathematical expectation, moments, dispersion, standard deviation. Chebyshev inequality and the rule of ""three sigma"". Characteristic function. Properties of characteristic functions. Distribution of random variables. Central limit theorem. Basic concepts of statistics. Population, random sample. The Central Statistics Theorem. Distributions important in statistics. Chi-square distribution, Student's (t) distribution, Fisher's (F) distributions. Estimate of parameters. Dotted ratings. Efficiency ratings. Confidence intervals. Hypothesis testing. Tests of significance. Parametric tests. Nonparametric tests.****"**  |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [x]  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** | **20** | **Written examination** | **20** |
| **Practical teaching** |  | **Oral examination** | **20** |
| **Teaching colloquia** | **40** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |