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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of electronic Engineering |
| **GENERAL INFORMATION** |
| Study program  | **Telecommunications** |
| Study Module (if applicable) |  Telecommunications and Signal Processing |
| Course title | Stochastic processes, detection and estimation |
| Level of study | ☐Bachelor x Master’s ☐ Doctoral |
| Type of course | ☐ Obligatory x Elective |
| Semester  |  ☐ Autumn xSpring |
| Year of study  | 1 |
| Number of ECTS allocated | 4 |
| Name of lecturer/lecturers | Prof. Dr Daniela Milović |
| Teaching mode |  xLectures ☐Group tutorials ☐ Individual tutorials ☐Laboratory work x Project work ☐ Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Foundation for statistical signal processing and solving common communication problems. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Introduction to fundamentals of detection and estimation theory. Stochastic processes - parameters, ensemble, stationarity, ergodicity, correlation functions, Wiener- Khinchin theorem. Discrete stochastic processes. Markov processes. Optimum receiver. |
| **LANGUAGE OF INSTRUCTION** |
| xSerbian (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** | **10** | **Written examination** | **20** |
| **Practical teaching** | **30** | **Oral examination** | **20** |
| **Teaching colloquia** | **20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |