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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | **Faculty of Electronic Engineering** |
| **GENERAL INFORMATION** |
| Study program  | **Electrical Power Engineering** |
| Study Module (if applicable) |  |
| Course title | Powerline Telecommunications |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | 1 |
| Number of ECTS allocated | 4 |
| Name of lecturer/lecturers | Nikolić B. Zorica, Milošević D. Nenad |
| Teaching mode |  [x] Lectures [x] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [ ]  Project work [x]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Acquiring the basic knowledge related to the data transmission over power lines. Theoretical knowloedge.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Introduction to Telecommunications. Signal Analysis. Methods for Signal Digitalization. Powerline Communications (PLC). PLC in the Telecommunications Access Area. Access Technologies. Powerline Communication Systems. Specific PLC Performance Problems. PLC Network Characteristics. Network Topology. Features of PLC Transmission Channel. Impact of Disturbances and Data Rate Limitation. Realization of PLC Access Systems. Architecture of the PLC Systems. Modulation Techniques for PLC Systems. Error Handling. PLC MAC Layer. Structure of the MAC Layer. Multiple Access Scheme. Traffic Control. Performance Evaluation of Reservation MAC Protocols. Reservation MAC Protocols for PLC. Signaling MAC Protocols. Protocol Comparison.** |
| **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** | **10** | **Written examination** |  |
| **Practical teaching** | **40** | **Oral examination** | **30** |
| **Teaching colloquia** | **20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |