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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Electronic Engineering |
| **GENERAL INFORMATION** |
| Study program  | Electrical Power Engineering |
| Study Module (if applicable) |   |
| Course title | Power Systems Planning |
| Level of study | ☐Bachelor × Master’s ☐ Doctoral |
| Type of course | ☐ Obligatory × Elective |
| Semester  |  × Autumn ☐Spring |
| Year of study  | I |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Aleksandar Janjić |
| Teaching mode |  ×Lectures ☐Group tutorials ☐ Individual tutorials ☐Laboratory work ☐ Project work × Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Introduction to the basic principles of planning of electric power systems and networks. Mastering thebasic techniques of load forecasting, planning, development and optimization of power networks. heoretical knowledge, practical competence in making the concept of development of power systemsand networks of different voltage levels. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Concept and types of planning. Planning principles. The objectives of planning, optimizationtechniques and constraints. Forecast of consumption and generation. Line costs, calculation of losses.Fundamentals of engineering economics. The principle of actualization. Uniform annual equivalent.Depreciation. Economic evaluation of investments. Reliability of generation system and networks.Basic optimization techniques: linear programming, integer programming, dynamic programming. Multicriteria optimization |
| **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** | **30** |
| **Practical teaching** | **15** | **Oral examination** | **20** |
| **Teaching colloquia** | **30** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |