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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | | Faculty of Electronic Engineering | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | Electrical Engineering and Computer Science | | |
| Study Module (if applicable) | | | | Electrical Power Engineering | | |
| Course title | | | | Electrical drives | | |
| Level of study | | | | xBachelor ☐ Master’s ☐ Doctoral | | |
| Type of course | | | | x Obligatory ☐ Elective | | |
| Semester | | | | x Autumn ☐Spring | | |
| Year of study | | | | 4 | | |
| Number of ECTS allocated | | | | 6 | | |
| Name of lecturer/lecturers | | | | Mitrović N. Nebojša | | |
| Teaching mode | | | | xLectures xGroup tutorials ☐ Individual tutorials  xLaboratory work ☐ Project work ☐ Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| Knowledge of basic principles of functioning and structure of electric drives. The ability to perceive a complex electromechanical system through functional connectivity of the power converters, electrical machines and load. Knowing the steady state characteristics. | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| The importance of electric drives. The selection of an electric motor. Drive characteristics with DC motors. Mathematical models, steady state characteristics, equivalent circuit. Electric braking methods. Control techniques. Combined voltage and flux control. Application of converters to DC drives. Drives with induction and synchronous motors. Basic equations. Equivalent circuit. The influence of voltage, parameters and frequency variation. Electric braking methods. Voltage and current converters for AC motor drives. Steady state characteristics. Application of inverter. Control methods. | | | | | | |
| **LANGUAGE OF INSTRUCTION** | | | | | | |
| xSerbian (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** | | | | | | |