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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) | Control Systems |
| Course title | Electromechanical Energy Conversion |
| Level of study | xBachelor☐ Master’s ☐ Doctoral |
| Type of course | ☐ Obligatory x Elective |
| Semester  | x Autumn ☐Spring |
| Year of study  | 3 |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Mitrović N. Nebojša |
| Teaching mode | xLecturesxGroup tutorials ☐ Individual tutorialsxLaboratory work ☐ Project work ☐ Seminar☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Understanding the basic principles of electromechanical energy conversion. Understanding the basic characteristics and operation of rotating electrical machines and transformers. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| The basic laws and principles of electromechanical energy conversion. Magnetic and electric circuit of electrical machines. Power balance of general machines. Equations of motion. Electromagnetic torque. Examples of single and multiple excitation system. The working principle of the basic types machines. Magnetic field of DC and AC machines. Magnetic forces. Windings of electric machines. Electromotive forces. Mechanical characteristics. DC machines. Synchronous machines. Inductions machines. Power transformers. |
| **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** |