|  |
| --- |
|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | of Electronic Engineering |
| **GENERAL INFORMATION** |
| Study program  | **Electrical Engineering and Computing** |
| Study Module (if applicable) | Electric Power Engineering |
| Course title | Electromagnetics |
| Level of study | [x] Bachelor [ ]  Master’s [ ]  Doctoral |
| Type of course | [x]  Obligatory [ ]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | 2. |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Slavoljub R. Aleksić, Nenad N. Cvetković |
| Teaching mode |  [x] Lectures [x] Group tutorials [x]  Individual tutorials [ ] Laboratory work [ ]  Project work [x]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *The aim of the subject Is enlarging existing and gaining new general and engineering knowledge in the field of electromagnetic field theory necessary for understanding and analysing different technical-technological processes in electric power systems, plants and devices. The subject should enable enable the student to recognize problems related to electromagnetic field theory and to formulate and solve simple problems that can occur in design, analysis or functioning of different elements of electric power systems, plants and devices.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **The basic laws of electromagnetic field (Maxwell's equations, electromagnetic field potentials, wave equation, continuity equation, Poynting's theorem). Electromagnetic properties of materials and boundary conditions. Electromagnetic problems classification regarding time dependence. Image theory . Electrodes systems and their parameters. Grounding systems. Permanent magnet calculation. Energy of electrostatic and quasi-stationary magnetic field. Skin effect in conductors of circular cross-section. Appoximate methods for solving electromagnetic field problems (Average potential method. Estimation method).** |
| **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** | **15** | **Written examination** | **10** |
| **Practical teaching** | **5** | **Oral examination** | **20** |
| **Teaching colloquia** | **50** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |