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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Science and Mathematics |
| **GENERAL INFORMATION** |
| **Study program**  | **Physics** |
| Study Module (if applicable) | Experimental and Applied Physics, Theoretical Physics |
| Course title | Solid State Physics |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [x]  Obligatory [ ]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | 2 |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Zoran Pavlović |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [x] Laboratory work [ ]  Project work [x]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| The course aims to introduce students to the concepts of Solid State Physics.Acquired knowledge is necessary for further scientific and professional work, research work and application of solid state physics in modern physics microelectronic components and systems. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| The quantum model of electrons in solid state and transport of electrons in solid state. The theory of the energy zone in metals, semiconductors and dielectric. The magnetism and superconductors effects. Kinetic phenomena in metals and semiconductors. Thermoelectric and galvanomagnetic effects in solid state. Nuclear magnetic resonance of solids state. Optical effect in the crystal. The technology for obtaining the mono crystals. Application of crystals in microelectronics and electronics systems, scientific and technical progress.  |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [ ]  English (complete course) [ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)[x] 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** | **20** |
| **Practical teaching** | **15** | **Oral examination** | **20** |
| **Teaching colloquia** | **40** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |