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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | **Electronic Engineering** |
| **GENERAL INFORMATION** |
| Study program  | Electronics and Microsystems |
| Study Module (if applicable) | Electronic Devices and Microsystems |
| Course title | Laser electronics |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  | [x]  Autumn [ ] Spring |
| Year of study  | 1 |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Paunović V. Vesna |
| Teaching mode |  [x] Lectures [x] Group tutorials [x]  Individual tutorials [x] Laboratory work [x]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Introduction to the laser light sources, their excitation and structures, and applications in various fields of technology, medicine and consumer products. Detailed knowledge of laser devices and systems. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Laser techniques as part of optoelectronics and its role in electronics, especially in telecommunications. Spontaneous and stimulated emission. Laser light sources, modulators, optical transmitters and detectors. Gas, liquid and solid lasers. Semiconductor lasers. The characteristics and limitations of the laser. Quantum optoelectronics. Sources and transmissions of light. Complex optical and electro-optical structure of telecommunications systems. Design, construction and manufacturing base excitation optoelectronic circuits. |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [x]  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** | **30** | **Written examination** |  |
| **Practical teaching** | **20** | **Oral examination** | **30** |
| **Teaching colloquia** | **20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |