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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Sciences and Mathematics |
| **GENERAL INFORMATION** |
| Study program | **Physics** |
| Study Module (if applicable) | General physics, Applied physics |
| Course title | Laser physics |
| Level of study | ☐ Bachelor ☒ Master’s ☐ Doctoral |
| Type of course | ☐ Obligatory ☒ Elective |
| Semester  |  ☐ Autumn ☒ Spring |
| Year of study  | II (Second) |
| Number of ECTS allocated | 6 (six) |
| Name of lecturer/lecturers | Suzana Stamenković/Marjan Stankov |
| Teaching mode |  ☒ Lectures ☐Group tutorials ☐ Individual tutorials ☒ Laboratory work ☐ Project work ☐ Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Introduce students to the basics of laser physics and laser technology.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Introduction to the laser physics. Stimulated emission of radiation and creating inverse population. Optical amplifier and generator. The working principles of laser. The generation of laser radiation and its basic characteristics. Laser resonators and modes. Types of lasers: gas lasers, liquid lasers, solid state lasers, semiconductor lasers. The interaction of laser radiation with matter. Detectors of laser radiation. Protection from laser radiation. The application of lasers in science, technology and medicine. |
| **LANGUAGE OF INSTRUCTION** |
| ☒ Serbian (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** |  | **Written examination** |  |
| **Practical teaching** | **10** | **Oral examination** | **50** |
| **Teaching colloquia** | **40** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |