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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  |  |
| **GENERAL INFORMATION** |
| Study program  | **General physics** |
| Study Module (if applicable) |  |
| Course title | Laser plasma interactions |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | 2 |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Ana M. Mančić |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *The objective of this course is to give a clear treatment of the major processes that develop in the interaction of intense laser radiation and plasma. After completing this course, students should be able to apply acquired knowledge in practice and in the future research and education.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Non-relativistic laser-plasma interactions (coupling of a light wave and plasma, parametric instabilities, application to inertial laser fusion). Relativistic laser-plasma interactions (free electron in the field of a plane electromagnetic wave, dispersion relation, relativistic self-focusing, acceleration of particles, some applications of short-pulse laser plasma interactions).** |
| **LANGUAGE OF INSTRUCTION** |
| [x] 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** | **5** | **Written examination** | **30** |
| **Practical teaching** | **20** | **Oral examination** | **30** |
| **Seminars** | **15** |  |  |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |