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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) | **General Physics** |
| Course title | **General Theory of Relativity** |
| Level of study | ☐Bachelor ☒ Master’s ☐ Doctoral |
| Type of course | ☐ Obligatory ☒ Elective |
| Semester  | ☒ Autumn ☐Spring |
| Year of study  | 2 |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Ljubiša Nešić |
| Teaching mode |  ☒Lectures ☐Group tutorials ☒ Individual tutorials ☐Laboratory work ☐ Project work ☒ Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Introduction to the basic concepts of the general theory of relativity. Concept of**time, space and causality. Extending intellectual horizon and training to deal with the open**problems on the front line of scientific thought.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Historical development of the notion of gravity. Describing of the curved space-time. Vector analysis on manifolds. Elements of tensor calculus. The principle of equivalence and the space-time curvature. Einstein's field equations. Schwartzshild solution. Experimental confirmation GTR. Schwarzschild black holes.** |
| **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** | **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** |