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| **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Mechanical Engineering |
| **GENERAL INFORMATION** |
| Study Program | **Mechanical Engineering** |
| Study Module (if applicable) | - |
| Course Title | Physics |
| Level of Study | ☒Bachelor | ☐ Master’s | ☐ Doctoral |
| Type of Course | ☒ Obligatory | ☐ Elective |
| Semester | ☒ Autumn | ☐ Spring |
| Year of Study | I |
| Number of ECTS Allocated | 6 |
| Name of Lecturer/Lecturers | Dragiša D. Nikodijević, Živojin M. Stamenković |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☒ Laboratory work | ☐ Project work | ☐ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| *The aim of the course is to introduce all students to certain areas of physics, which are of fundamental importance for technical studies. The course is targeting both the theoretical and practical aspects of the physics.* |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| 1) Matter, substance, physical field. SI system of units. 2) Motion, mechanical motion, the relativity of motion. 3) Newton's laws of mechanics. Work, energy, power. 4) The law of conservation of mechanical energy. 5) Oscillatory movement, harmonic motion. 6) Wave motion, propagation of elastic deformation, interference of waves, polarization of waves, Standing waves. 7) Sound, resonance, Kundt's tube, the Doppler effect. 8) Optics. 9) Thermal radiation, the electromagnetic radiation, photoelectric effect. 10) Atomic physics. 11) Nuclear energy, fission, fusion, nuclear reactors. |
| **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** |
| **Lecture (participation) and homework** | **5 + 5** | **Written Examination** | **0\* (60)** |
| **Laboratory** | **10** | **Oral Examination** | **Max. 30**  |
| **Two midterm exams** | **50** | **Overall Sum** | **100** |
| **\*** **Refers to students who have already gained points by completing pre-exam requirements** |