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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 | Dynamics |
| Level of Study | ☒Bachelor | ☐ Master’s | ☐ Doctoral |
| Type of Course | ☒ Obligatory | ☐ Elective |
| Semester | ☐ Autumn | ☒ Spring |
| Year of Study | II |
| Number of ECTS Allocated | 7 |
| Name of Lecturer/Lecturers | Ratko G. Pavlović, Goran Janevski |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☒ Individual tutorials |
| ☐ Laboratory work | ☐ Project work | ☐ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| The main objective of the course is to provide students theoretical knowledge of basic, general laws, principles of mechanics, geometry of mass movements of rigid bodies. Training students to follow lectures of Fluid Mechanics, Thermodynamics, Mechanical construction, Theories of oscillations and the Theory of mechanisms. |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| General laws of particle dynamics. Motion of particles under conservative forces. Motion of particles under central force. Motion of points on the line and surface. The dynamics of the relative motion of a point. Dynamics for a system of particles. Principles of dynamics and Lagrange's Equations 2nd. The inertia of body. Dynamics of translation, rotation rigid body about a fixed axis, plane motion of a rigid body and rotation rigid body about a fixed point. Elastic and inelastic collision. Dynamics of a body of variable weight.  |
| **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** | **50** |
| **Practical Teaching** | **5** | **Oral Examination** | **Max. 50**  |
| **Teaching Colloquia** | **50** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |