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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 | Mechanics 1 - Statics |
| 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 | Ratko G. Pavlović, Predrag S. Kozić, Dragan B. Jovanović, Goran B. Janevski |
| Teaching Mode | ☒ Lectures | ☐Group tutorials | ☒ Individual tutorials |
| ☐ Laboratory work | ☐Project work | ☐ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| Students are introduced to the concept of force in mechanics, moment of force, force couple or pure moment, and system of forces up to a general three-dimensional system of forces. They study the conditions of equilibrium of a body and systems of more bodies. Define the internal static values and applied in the liner beams and trussesStudents learn to be able to model and solve practical engineering problems. Acquired basic knowledge to follow the teaching of the subject: Strength of Materials, Kinematics, Dynamics,Machine elements and Mechanical constructions. |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| Statics in Engineering. Basic Concepts. Axioms of Statics. Constrained Body. Constraints and Reactions of Constraints. Constraint Removal Principle. Conditions of Equilibrium of Concurrent Force System. Equilibrium of Three-force System. Moment of a Force about a Point and Axis. Couple. Moment of a Couple. Equivalence of Couples. Equilibrium of Couple Systems. Fundamental Theorems of Statics. Reduction of Force Systems. Condition of Equilibrium of Force Systems. Center of Parallel Force System. Center of Gravity of a Body. Center of Gravity Determination. Guldin’s Theorems. Types of Loads. Forces and Moments in Cross-section of Structures.  |
| **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** | **10** | **Written Examination** | **45** |
| **Practical Teaching** | **-** | **Oral Examination** | **Max. 45** |
| **Teaching Colloquia** | **45** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |