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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Occupational Safety in Niš |
| **GENERAL INFORMATION** |
| Study program  | Environmental Protection |
| Study Module (if applicable) | - |
| Course title | Technical Mechanics |
| Level of study | ⌧ Bachelor ☐ Master’s ☐ Doctoral |
| Type of course | ⌧ Obligatory ☐ Elective |
| Semester  | ⌧ Autumn ☐ Spring |
| Year of study  | II |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Dragan Stojiljković |
| Teaching mode |  ⌧ Lectures ☐Group tutorials ☐ Individual tutorials ☐ Laboratory work ☐ Project work ☐ Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Acquiring knowledge in technical mechanics necessary to take specialised courses in the later years of study. Students’ introduction to fundamental mechanics principles and laws necessary for the analysis of processes and phenomena in the fields of occupational safety and environmental protection. Learning outcomes: solve specific practical and calculus problems in mechanics, connect fundamental data from various areas of mechanics and apply them, understand mechanical laws in order to apply them in occupational and environmental engineering.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Statics - Fundamentals. Axioms of statics; The system of concurrent forces. The equations of equilibrium; The system of parallel forces. The center of gravity of the body. The center of gravity of homogeneous material surface; Basic elements to graphostatic; Planar grid: Static determination, Methods for determining of internal forces; Planar porters: free beams, cantilever beam, beams with overhangs. Definition of force in cross-section and the convention on the sign; Strength of materials - Basic concepts and assumptions; Geometrical characteristics as flat cross-section; Basic types of stress: Axial stress; Planar strain. Shear; Torsion of back circular and circular-annular cross-section; Flexion. Elastic line; Deflection.Calculus exercises follow theoretical lessons and thus contribute to a better understanding of the material and complement the acquired knowledge. |
| **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** | **20** |
| **Practical teaching** | **-** | **Oral examination** | **20** |
| **Teaching colloquia** | **50** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |