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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 | Mechanical and Hydromechanical operations |
| Level of Study | ☒Bachelor | ☐ Master’s | ☐ Doctoral |
| Type of Course | ☐ Obligatory | ☒ Elective |
| Semester | ☐Autumn | ☒Spring |
| Year of Study | III |
| Number of ECTS Allocated | 6 |
| Name of Lecturer/Lecturers | Velimir P. Stefanović |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☒ Laboratory work | ☒ Project work | ☒ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| Advancing the students’ knowledge on topic of mechanical and hydromechanical operations in process and other industry and study of commonly used principles in mechanical and hydromechanical operations. Students gain broad review of all techniques and new trends in the area. After the final exam the students will be able to independently apply methodology of calculation for commonly used mechanical and hydromechanical operations in engineering practice |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| 1) Introduction, definition and division of mechanical and hydromechanical operations, 2) Modern methods of material granulation, 3) Classification and sorting, 4) Mixing and fluidization, 5) Hydromechanical operations, 6) Hydrokinetics of precipitation 7) Fluid flow through porous environments and filtration, 8) Selected chapters of the centrifugation and centrifugal filters, 9) Separation of gaseous heterogeneous systems, 10) Dedusting of gases by wet processes – general properties of aerosol systems and wet dedusters, 11) Physical basis of separation of aerosol particles from gas flow, 12) Physical basis of separation of aerosol particles in wet dedusters, 13) New trends in mechanical and hydromechanical operations |
| **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** | **60** |
| **Practical Teaching** | **5** | **Oral Examination** | **Max. 30 (depending on Teaching Colloquia)** |
| **Teaching Colloquia** | **0** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |