



UNIVERSITY OF NIŠ

Course Unit Descriptor

Faculty

Faculty of Mechanical Engineering

GENERAL INFORMATION

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|------------------------------|--|
| Study Program | Mechanical Engineering |
| Study Module (if applicable) | - |
| Course Title | Mechanical and Hydromechanical operations |
| Level of Study | <input checked="" type="checkbox"/> Bachelor <input type="checkbox"/> Master's <input type="checkbox"/> Doctoral |
| Type of Course | <input type="checkbox"/> Obligatory <input checked="" type="checkbox"/> Elective |
| Semester | <input type="checkbox"/> Autumn <input checked="" type="checkbox"/> Spring |
| Year of Study | III |
| Number of ECTS Allocated | 6 |
| Name of Lecturer/Lecturers | Velimir P. Stefanović |
| Teaching Mode | <input checked="" type="checkbox"/> Lectures <input type="checkbox"/> Group tutorials <input type="checkbox"/> Individual tutorials <input checked="" type="checkbox"/> Laboratory work <input checked="" type="checkbox"/> Project work <input checked="" type="checkbox"/> Seminar <input type="checkbox"/> Distance learning <input type="checkbox"/> Blended learning <input type="checkbox"/> 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**