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| **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Mechanical Engineering |
| **GENERAL INFORMATION** |
| Study Program |  **Engineering Management** |
| Study Module (if applicable) |  Transport and logistics management |
| Course Title | Material flow |
| 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 | Goran S. Petrović |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☒ Laboratory work | ☐ Project work | ☐ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| *This course aims to introduce students to the modelling and analysis of material flows within production, warehousing and distribution systems. After completion of the subject the students are able to describe the physical material flows, including storage, material handling, transports and packaging. The course is targeting both the theoretical and practical aspects of the material flows.* |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| 1) The importance of material flows in the supply of raw materials, production and distribution of goods; 2) The basic elements of material flow systems; 3) Dynamic modelling of material flows; 4) Stochastic processes: probability distributions for describing the uncertain in material flows; 5) Parametric and nonparametric statistics - Chi-squared test; 6) Queuing theory – models M/M/1, M/M/m, finite population models...; 7) Planning of the material flow; 8) Logistics and material flow simulation; 9) Information flow in logistics system. |
| **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 (depending on Teaching Colloquia)** |
| **Practical Teaching** | **5** | **Oral Examination** |  **30** |
| **Teaching Colloquia** | **60** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |