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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 | Warehouse material handling equipment |
| Level of Study | ☒Bachelor | ☐ Master’s | ☐ Doctoral |
| Type of Course | ☐ Obligatory | ☒ Elective |
| Semester | ☒ Autumn | ☐ Spring |
| Year of Study | IV |
| Number of ECTS Allocated | 6 |
| Name of Lecturer/Lecturers | Miomir Lj. Jovanović |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☒ Laboratory work | ☒ Project work | ☒ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| *Introduction to theoretical and practical knowledge of warehouse systems and warehouse material handling equipment. After completion of the subject the students are able to apply the acquired knowledge in field of design, management and maintenance of warehouses.*  |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| 1) Logistic approach to procurement, production and distribution processes. Storage as a term. 2) The logistics system and warehousing. Techno-economic characteristics of the warehouses: warehouses capacity and goods turnover ratio. 3) Storage system. General of the processes and elements of the storage system. Elements of the warehouse: goods, storage objects, transport equipment, racks, auxiliary equipment and information systems. 4) Goods, packaging, pallets, pallet packages. The formation of logistics units. Techniques for identification and information systems in warehouses. 5) Storage objects. The types of storage facilities. The basic characteristics of storage facilities for bulk, parcel, liquid and gaseous goods. 6) Warehouse equipment. Equipment for reception of the goods in the warehouse. Racks - purpose, classification and description. Transport machines in warehouses. 7) Storage technologies. Overview of typical storage technologies for parcel, bulk, liquid and gaseous materials. 8) Commissioning technology. Definition. Material flow, information flow and organization of commissioning in warehouses. 9) High bay warehouses and high bay cranes. 10) Warehouse processes management and security in the warehouse. 11) Examples of existing warehouse calculation. |
| **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** | **0** |
| **Practical Teaching** | **5** | **Oral Examination** |  **30**  |
| **Teaching Colloquia** | **60** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |