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| **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Mechanical Engineering |
| **GENERAL INFORMATION** |
| Study Program | **Traffic engineering, transport and logistics** |
| Study Module (if applicable) | - |
| Course Title | CAD studio of machines and vehicles |
| 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 | Dragoslav B. Janošević |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☒ Laboratory work | ☒ Project work | ☒ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| Engineering design methodology and application of available and development of application software in the process of designing machines and vehicles in the atmosphere of CAD studio. Mathematical models, dynamic simulation and structural analysis of machines and vehicles. criteria and methods of design of machines and vehicles. |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| 1) Basics of engineering design, 2) General procedure design of machinery and vehicles, 3) Method QFD (Quality Function Deploymet), 4) Software tools for analysis and design of machines and vehicles, 5) Morphological analysis and selection of machines and drive concepts, 6) Development of mathematical models for dynamic simulation of machines and vehicles, 7) development of application software for energy analysis of machines and vehicles, 9) Synthesis of the drive system, 10) The influential factors shaping machines and vehicles, 11) Criteria dimensioning and reliability of elements of machines and vehicles 12) Structural analysis of the skeletons of machinery and vehicles. |
| **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** | **50** |
| **Practical Teaching** | **10** | **Oral Examination** | **Max. 35 (depending on Teaching Colloquia)** |
| **Teaching Colloquia** | **35** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |