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| **UNIVERSITY OF NIŠ** | | | | | | | | |
| **Course Unit Descriptor** | | | **Faculty** | | Faculty of Mechanical Engineering | | | |
| **GENERAL INFORMATION** | | | | | | | | |
| Study Program | **Mechatronics and Control** | | | | | | | |
| Study Module (if applicable) | Mechatronics and Control | | | | | | | |
| Course Title | Mechatronic Systems in Traffic and Transportation | | | | | | | |
| 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 | Miloš S. Milošević | | | | | | | |
| Teaching Mode | ☒ Lectures | | | ☒Group tutorials | | | | ☒ Individual tutorials |
| ☒ Laboratory work | | | ☒Project work | | | | ☒ Seminar |
| ☐ Distance learning | | | ☐ Blended learning | | | | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** | | | | | | | | |
| *Getting to know the principles of operation of mechatronic systems, with special emphasis on mechatronicsystems that areindispensable equipment that in modern vehicles and in the organization of transport and transportation affect the safety, energy efficiency, environmental aspects and comfort.Acquiring theoretical and practical knowledge of the principles of operation of mechatronic systems used in modern motor vehicles and traffic organization and transportation. Empowerment throughpractical training to identify the parameters of applied mechatronic systems in order to ensuretheir optimal function in different conditions of use.* | | | | | | | | |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** | | | | | | | | |
| Introduction to mechatronic systems. Functional principles. Interdisciplinary nature. Components of mechatronic systems. Sensors, actuators. Control of mechatronic systems. Mechanical, electrical and electronic components in motor vehicles. Mechatronic systems in motor vehicles. Diagnostics and testing of mechatronic systems in motor vehicles. Mechatronic systems in traffic and transportation. Telematics. Intelligent Transportation Systems. Trends in Mechatronics in motor vehicles and their impact on energy efficiency,environmental aspect, security and comfort.Examples of functioning of applied mechatronic systems in motor vehicles. Identify, measure and adjustment of parameters of applied mechatronic systems in motor vehicles ensuring their optimum function under different conditions of use. Work with modern software packages for diagnosis and testing of mechatronic systems in motor vehicles. Examples of applied mechatronic systems for traffic and transportation. | | | | | | | | |
| **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** | | **10** | **Written Examination** | | | **0** | | |
| **Practical Teaching** | | **10** | **Oral Examination** | | | **20** | | |
| **Teaching Colloquia** | | **60** | **Overall Sum** | | | **100** | | |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | | | |