	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 mechatronic systems that are indispensable 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 through practical training to identify the parameters of applied mechatronic systems in order to ensure their 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			