UNIVERSITY OF NIŠ

Course Unit Descriptor	Faculty	Faculty of Mechanical Engineering

GENERAL INFORMATION	
Study Program	Doctoral Academic Studies
Study Module (if applicable)	-
Course Title	Selected topics in mechanical design and railway engineering
Level of Study	☐ Bachelor ☐ Master's ☒ Doctoral
Type of Course	☐ Obligatory ☒ Elective
Semester	☐ Autumn ☒ Spring
Year of Study	I
Number of ECTS Allocated	10
Name of Lecturer/Lecturers	Dušan S. Stamenković, Dragan S. Milčić, Boban R. Anđelković, Jelena D. Stefanović-Marinović, Aleksandar V. Miltenović, Miroslav M. Mijajlović
Teaching Mode	☐ Lectures ☐ Group tutorials ☒ Individual tutorials ☒ Laboratory work ☒ Project work ☐ Seminar ☐ Distance learning ☐ Blended learning ☐ Other

Purpose and Overview (max. 5 sentences)

Introduces students to selected research topics in field of mechanical engineering design and railway engineering and acquiring new scientific knowledge in applied technical area of mechanical design and railway engineering.

Syllabus (brief outline and summary of topics, max. 10 sentences)

1) *Processes, systems and methods in product development, 2) Machine elements. Tribology, 3) Virtual product development. Reverse engineering of technical systems, 4) Advanced methods for the modelling and simulation of technical systems, 5) Power transmission, 6) Effectiveness of technical systems, 7) Welding and weldability. Welding processes, 8) Maintenance of technical systems , 9) Design characteristics of railway vehicles, 10) Testing of railway vehicles and their components assemblies, 11) Preventive and corrective maintenance of railway vehicles, 12) Modification and reconstruction of railway 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

Project work	**50**	**Oral Examination**	**50**
		Overall Sum	**100**
***Final examination mark is formed in accordance with the Institutional documents**			