



# UNIVERSITY OF NIŠ

**Course Unit Descriptor**

**Faculty**

Faculty of Mechanical Engineering

## GENERAL INFORMATION

Study Program	<b>Doctoral Academic Studies</b>		
Study Module (if applicable)	-		
Course Title	Design of railway vehicles		
Level of Study	<input type="checkbox"/> Bachelor	<input type="checkbox"/> Master's	<input checked="" type="checkbox"/> Doctoral
Type of Course	<input type="checkbox"/> Obligatory	<input checked="" type="checkbox"/> Elective	
Semester	<input type="checkbox"/> Autumn	<input checked="" type="checkbox"/> Spring	
Year of Study	I		
Number of ECTS Allocated	10		
Name of Lecturer/Lecturers	Dušan S. Stamenković		
Teaching Mode	<input type="checkbox"/> Lectures	<input type="checkbox"/> Group tutorials	<input checked="" type="checkbox"/> Individual tutorials
	<input type="checkbox"/> Laboratory work	<input checked="" type="checkbox"/> Project work	<input type="checkbox"/> Seminar
	<input type="checkbox"/> Distance learning	<input type="checkbox"/> Blended learning	<input type="checkbox"/> Other

### Purpose and Overview (max. 5 sentences)

*Introduces students to railway vehicles design process, modelling of underframe and running gear and type and serial testing of railway vehicles.*

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

1) Phases in the design process, 2) Modular design, 3) Basic technical and operational characteristics of railway vehicles, 4) Diesel-hydraulic, electric and diesel-electric propulsion system, 5) Wheel traction force, 6) Pre-sliding the importance of static friction, 7) Modelling of running gear, 8) Underframe modelling, 9) Modelling of buffing and draw gear, 10) Type and serial testing of railway vehicles, 11) Testing of assemblies and devices of railway vehicles, 12) Standards and regulations

### 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		Written Examination	Max. 55 (depending on Teaching Colloquia)

<b>Practical Teaching</b>		<b>Oral Examination</b>	<b>50</b>
<b>Teaching Colloquia</b>	<b>50</b>	<b>Overall Sum</b>	<b>100</b>

**\*Final examination mark is formed in accordance with the Institutional documents**