



UNIVERSITY OF NIŠ

Course Unit Descriptor**Faculty**

Faculty of Mechanical Engineering

GENERAL INFORMATION

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|------------------------------|---|--|--|
| Study Program | Mechanical Engineering | | |
| Study Module (if applicable) | - | | |
| Course Title | Design of railway vehicles | | |
| Level of Study | <input checked="" type="checkbox"/> Bachelor | <input type="checkbox"/> Master's | <input 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 | IV | | |
| Number of ECTS Allocated | 6 | | |
| Name of Lecturer/Lecturers | Dušan S. Stamenković | | |
| Teaching Mode | <input checked="" type="checkbox"/> Lectures | <input type="checkbox"/> Group tutorials | <input checked="" type="checkbox"/> Individual tutorials |
| | <input checked="" type="checkbox"/> Laboratory work | <input 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)

Introduce students to the railway vehicles design and to the basic constructional parameters of their assemblies. Students should to know the structure of locomotives, passenger cars, freight cars and trains, and to conduct the calculating procedure for running gear and car body.

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

1) General introduction, 2) Phases in design process, 3) Modular design, 4) Basic technical and operational characteristics of railway vehicles, 5) The types of railway vehicles, 6) Locomotive, 7) Passenger and freight cars, 8) Electric multiple unit (EMU) and diesel multiple unit (DMU), 9) High speed trains, 10) Magnetic levitation trains, 11) Main assemblies; Drive system; Running gear; Wheel set; Vehicles body; Buffing and draw gear, 12) Testing of railway vehicles. 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 |
|-----------------|--------|------------|--------|
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| Activity During Lectures | 5 | Written Examination | Max. 60 (depending on Teaching Colloquia) |
| Practical Teaching | 5 | Oral Examination | 30 |
| Teaching Colloquia | 60 | Overall Sum | 100 |
| *Final examination mark is formed in accordance with the Institutional documents | | | |