# UNIVERSITY OF NIŠ

| Course Unit Descriptor | Faculty | Faculty of Mechanical Engineering |
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| GENERAL INFORMATION | |
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| Study Program | Mechanical Engineering |
| Study Module (if applicable) | Mechatronics and Control |
| Course Title | Mechatronics |
| Level of Study | ☒Bachelor ☐ Master's ☐ Doctoral |
| Type of Course | ☐ Obligatory ☒ Elective |
| Semester | ☒ Autumn ☐ Spring |
| Year of Study | III |
| Number of ECTS Allocated | 6 |
| Name of Lecturer/Lecturers | Tomislav B. Petrović, Miloš S. Milošević |
| Teaching Mode | ☒ Lectures ☐ Group tutorials ☐ Individual tutorials<br>☒ Laboratory work ☒ Project work ☒ Seminar<br>☐ Distance learning ☐ Blended learning ☐ Other |

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

*Getting the knowledge about mechatronics as an interdisciplinary field, introduction to the basic principles of components and complex mechatronic systems. Getting acquainted with the implemented mechatronics systems and the directions of further development of mechatronics. Training for the design of mechatronic systems and team work in the field of development of mechatronic systems.*

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

Introduction to Mechatronics. Mechanic, electronic and mechatronic systems. Structure of mechatronic systems. Basics of the development and design of mechatronic systems. Sensors and application of measurement techniques in mechatronics. Actuators of mechatronic systems. The application of electronics in mechatronics. Basics of control in mechatronic systems. Modeling in Mechatronics. Realisation of mechatronic systems. Analysis of the working principle realized mechatronic systems. Practical introduction to the characteristics of the actuators of mechatronic systems. Design and development of the selected actuator.

**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** | **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** | | | |