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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | | Faculty of Mechanical Engineering | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | **Mechanical Engineering** | | |
| Study Module (if applicable) | | | | - | | |
| Course title | | | | Д.3.2-И.4.26- Rehabilitation robotics | | |
| Level of study | | | | ☐ Bachelor ☐ Master’s ☒ Doctoral | | |
| Type of course | | | | ☐ Obligatory☒ Elective | | |
| Semester | | | | ☒ Autumn ☐ Spring | | |
| Year of study | | | | II | | |
| Number of ECTS allocated | | | | 10 | | |
| Name of lecturer/lecturers | | | | Vlastimir D. Nikolić, Danijela Ristić-Durrant | | |
| Teaching mode | | | | ☒Lectures ☐Group tutorials ☐ Individual tutorials  ☐Laboratory work ☒ Project work ☒ Seminar  ☐Distance learning ☐ Blended learning ☐ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| *Introduce students to the one of the youngest and the most challenging field in robotics. First of all, the historical development and the usage of robots in rehabilitation it is presented. Also it is presented the modern trends which make of the rehabilitation robotic a multidisciplinary subject. The rehabilitation robotics includes robotics, automatic control, cognitive science and neurorehabilitation. The aim of this course is training students for making concepts of robotic system which physical interact with human in process of rehabilitation upper and/or lower extremities.* | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| *1) Chronological overview of the development and use of the robots in the rehabilitation. 2) Contemporary trends in rehabilitation robotics. 3) Robotic systems for rehabilitation of human upper extremities. 4) Robotic systems for rehabilitation human walking. 5) Human-centred principle of designing the rehabilitation robotic systems. 6) Sensors in rehabilitation robotic . 7) Control methods in rehabilitation robotic. 8) Cognitive rehabilitation systems. 9) Evaluation of robotic systems for rehabilitation.* | | | | | | |
| **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** | | | **50** |
| **Practical teaching** |  | | **Oral examination** | | | **50** |
| **Teaching colloquia** |  | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |