



UNIVERSITY OF NIŠ

Course Unit Descriptor**Faculty**

Faculty of Mechanical Engineering

GENERAL INFORMATION

Study Program	Mechanical Engineering		
Study Module (if applicable)	-		
Course Title	Hydraulic and pneumatic elements on mechatronics		
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 checked="" type="checkbox"/> Autumn	<input type="checkbox"/> Spring	
Year of Study	III		
Number of ECTS Allocated	6		
Name of Lecturer/Lecturers	Dragiša Nikodijević		
Teaching Mode	<input checked="" type="checkbox"/> Lectures	<input type="checkbox"/> Group tutorials	<input 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)

The aim of the course is to introduce all students with the hydraulic and pneumatic elements in mechatronics. The course is targeting both the theoretical and practical aspects of the design of mechatronics systems.

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

1) Elements for energy transformation: displacement pumps (piston, vane, gear, screw). 2) Hydraulic motor, compressors, hydraulic and pneumatic cylinders, hydraulic accumulators. 2) Control and regulation: control valves, the pressure valves, flow valves. 3) Additional elements: fuel, rigid and flexible piping, assembling elements. 4) Sealing.

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
Lecture (participation) + Homework	5 + 5	Written Examination	0* (50)
Laboratory	10	Oral Examination	Max. 30

Two midterm exams	50	Overall Sum	100
* Refers to students who have already gained points by completing pre-exam requirements			