

COURSE GUIDE – short form

Academic year 2014 - 2015

Course name ¹	Programming languages for Robots					Course code	RBT.414. DO.DS-1		
Course type ²	DS	Category ³	DO	Year of study	IV	Semester	8	Number of credit points	5

Faculty	Mechanics	Number of teaching and learning hours ⁴						
Field	Mechatronics and Robotics	Total	L	T	LB	P	IS	
Specialization	Robotics and Mechatronics	56	28	-	28	-	70	

Pre-requisites from the curriculum ⁵	Compulsory	
	Recommended	

General objective ⁶	The course is intended to familiarize the students with the basic principles of robot programming at the level of operating systems and the effector. Practical work in the laboratory aims to fix the knowledge presented at the course.
Specific objectives ⁷	<ul style="list-style-type: none"> • General aspects of the presentation of the programming of robots; • Analysis of the structure of programming languages (the effector level, objects level and objectives level). • Programming the system drive: DC motor command; servo-motor command; use of sensors in the driving system. • Presentation of the main instructions of the language Melfa Basic IV for a robot control.
Course description ⁸	Introduction to the programming of robots. Trajectory generation. Trajectory planning in generalized and operational coordinates. Analysis of the structure of programming languages. Programming of the robots to the level of the driving system. Programming of the driving DC motor. Programming servo drive. Textual (offline) programming of robots. Melfa Basic IV programming language. Commands for controlling the movement and position. Program control instructions.

Assessment			Schedule ⁹	Percentage of the final grade (minimum grade) ¹⁰
Continuous assessment	Class tests along the semester			%
	Activity during tutorials/ laboratory works/projects/practical work		Week 1-14	20%
	Assignments, homework		Week 14	30%
Final assessment	Final assessment form ¹¹	Exam	Exam period	50%
	Examination procedures and conditions: 1. Exam with three subjects from the curriculum, time 2 h, percent of the final grade 50 %. 2. Applications evaluation, percent of the final grade 20 %. 3. Assessments of the homework, percent of the final grade 30 %.			

Course organizer	prof. dr. ing. Leohchi Dumitru	
Teaching assistants	prof. dr. ing. Leohchi Dumitru	