

# COURSE GUIDE – short form

Academic year 2014 - 2015

Course name <sup>1</sup>	<b>Programming methods of Robotic Systems</b>					Course code	MSR.DI. DA.202		
Course type <sup>2</sup>	DA	Category <sup>3</sup>	DI	Year of study	M II	Semester	3	Number of credit points	6

Faculty	Mechanics	Number of teaching and learning hours <sup>4</sup>						
Field	Mechatronics and Robotics	Total	L	T	LB	P	IS	
Specialization	Robotic Systems	42	28	-	14	-	98	

Pre-requisites from the curriculum <sup>5</sup>	Compulsory	
	Recommended	

General objective <sup>6</sup>	The course is intended to familiarize the students with the basic principles of programming methods, modeling and simulation of robotic systems.
Specific objectives <sup>7</sup>	<ul style="list-style-type: none"> <li>• Introduction to programming and programming levels of robotic systems.</li> <li>• Presentation of the types of orders and the methods of trajectory generation.</li> <li>• Presentation of programming processes (online) through learning.</li> <li>• Programming through modeling and simulation of robotic system.</li> <li>• Presentation of Robot Studio program used for modeling, simulation and programming of robotic cells.</li> </ul>
Course description <sup>8</sup>	<p>Introduction to robotic systems programming. General programming. Levels of programming.</p> <p>Trajectory generation generalized coordinates and coordinate operational.</p> <p>Online programming robotic systems. Programming processes. Programming through direct or indirect learning.</p> <p>Programming through modeling and simulation of robotic system. Modeling and simulation of robotic system using RobotStudio.</p> <p>RAPID programming language. The structure of the programs in the RAPID language.</p> <p>Instructions for the motion of the robot and the control of the movement</p>

Assessment			Schedule <sup>9</sup>	Percentage of the final grade (minimum grade) <sup>10</sup>
Continuous assessment	Class tests along the semester			%
	Activity during tutorials/ <b>laboratory</b> works/projects/practical work		Week 1-14	40%
	Assignments, homework			
Final assessment	Final assessment form <sup>11</sup>	Exam	Exam period	60%
	Examination procedures and conditions: 1. Exam with three subjects from the curriculum, time 2 h, percent of the final grade 60 %. 2. Applications evaluation, percent of the final grade 40 %.			

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