

COURSE GUIDE – short form

Academic year 2017-2018

Course name ¹	Automation applied in industrial processes					Course code		2EPI17DID	
Course type ²	DID	Category ³	DO	Year of study	2	Semester	4	Number of credit points	3

Faculty	Materials Science and Engineering	Number of teaching and learning hours ⁴						
Field	Industrial Engineering	Total	L	T	LB	P	IS	
Specialization	Safety Engineering in Industry	72	28	-	28	-	16	

Pre-requisites from the curriculum ⁵	Compulsory	Not the case	
	Recommended	Physics	

General objective ⁶	Development of knowledge, theoretical and practical technical thinking and preparation in the field of automation in industrial processes.
Specific objectives ⁷	Completion of technical language with elements specific for applied automation, development of functional correlation capacity between the mechanical and automation side of the equipment for materials processing.
Course description ⁸	Theory of automation systems: signals; perturbations; direct and reverse Laplace transformation; automatic system: elements; operational diagram; automatic regulation systems: automation element; automation elements with linear continuous operation; static characteristics linearization; transfer function; Fourier transformation; link with bilateral Laplace transformation; representations by frequency characteristics; temperature measurement: thermocouples; thermoresistant elements; manometric thermometer, other types of thermometers; Pressure measurements: transducers based on elastic deformation of the bodies; pressure measurement schemes; density- electric measurement converters (measurement of density for gases and liquids); air humidity measurement.

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 – open questions		50%
	Assignments		-
Final assessment	Final assessment form ¹¹	Colloquy	Wk 14
	Oral Examination: 1. Closed question, oral response - 30%; 2. Open question, oral response - 40%; 3. Open question, concerning practical, laboratory work - 30%		50%

Course organizer	Assoc.Prof.PhD.Eng. Maria BACIU
Teaching assistants	Assoc.Prof.PhD.Eng. Maria BACIU

¹Course name from the curriculum

² DF – fundamental, DID – in the field, DS – specialty, DC – complementary (from the curriculum)

³ DI – imposed, DO – optional, DL – facultative (from the curriculum)

⁴Points 3.8, 3.5, 3.6a,b,c, 3.7 from the Course guide – extended form (L-lecture, T-tutorial, LB-laboratory works, P-project, IS-individual study)

⁵According to 4.1 –Pre-requisites - from the Course guide – extended form

⁶According to 7.1 from the Course guide – extended form

⁷According to 7.2 from the Course guide – extended form

⁸ Short description of the course, according to point 8 from the Course guide – extended form

⁹ For continuous assessment: weeks 1 – 14, for final assessment – colloquium: week 14, for final assessment-exam: exam period

¹⁰ A minimum grade might be imposed for some assessment stages

¹¹ Exam or colloquium