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written exam

		STUDY MODULE D	ESCRIPTION FORM			
	of the module/subject	of mechatronic systems		Code 1010321361010326007		
Field of study			Profile of study	Year /Semester		
Electrical Engineering			(general academic, practical) (brak)	3/6		
Electrical Systems in Mechatronics			Subject offered in: Polish	Course (compulsory, elective) obligatory		
Cycle	of study:	,	Form of study (full-time,part-time)			
First-cycle studies			full-time			
No. of	hours			No. of credits		
Lectu	ire: 30 Classes	s: - Laboratory: -	Project/seminars:	- 2		
Status	of the course in the study	program (Basic, major, other)	(university-wide, from another f	field)		
		(brak)		(brak)		
Educa	tion areas and fields of sci	ence and art		ECTS distribution (number and %)		
tech	nical sciences			2 100%		
	Technical scie	ences		2 100%		
Dr em tel.	ponsible for subje inż. Jacek Mikołajewicz aail: Jacek.Mikolajewicz 61 665 2396 ektryczny	Z				
Prer	equisites in term Knowledge	s of knowledge, skills an	<u> </u>			
2	Skills	Knowledge of the structure and	nowledge of the structure and operation of electrical systems and mechatronics.			
3	Social competencies	Awareness of the need to broad	len their competence, willingne	ss to work together as a team.		
Assı	umptions and obj	ectives of the course:				
		of design, testing and analysis of r Γhe acquisition of skills in computi		ctromagnetic and		
1.7		mes and reference to the	educational results for	a field of study		
	wledge:	vuladae for the description and an	alvais of machatronia some	unto and avotoms as well as the		
		wledge for the description and an in them - [K_W01+++]	aiysis or mechaironic compone	ano anu systems as well as the		
		of numerical methods allow to solvical computations and analysis an				
Skill	s:					
		thods and mathematical models a components and systems - [K_U		alyze and evaluate the		
	an be used properly ch nechatronical systems	osen servants development envir - [K_U13 ++]	onments for simulation, design	and analysis of simple electrica		
Soci	al competencies:					
1. He	can think and act in an	entrepreneurial manner in the ar	ea of electrical engineering - [K	_K04++]		
		Assessment metho	ds of study outcomes			
Lactu			•			

Faculty of Electrical Engineering

Course description

Classification models of electromechanical transducers. General description of the models of disease. Mathematical models of electromechanical transducers and complex mechatronic systems. Regulators. Control systems with feedback. Methods of solving equations of state. Differential equations of the form write the loop and nodal electric circuits. Methods for solving nonlinear differential equations. Simulation algorithm electromechanical transducers operating conditions with two degrees of freedom.

Basic bibliography:

- 1. B. Mrozek, Z. Mrozek, MATLAB i Simulink, W Helion, Gliwice, 2004.
- 2. R. Burden, J.D. Faires, Numerical Analysis, PWS Publishers, Prindle, Weber&Schmidt, 1985.
- 3. P. Krauze, Analysis of Electric Machinery, McGraw Hill Book Company, New York 1986.
- 4. M. Sobierajski, M. Łabuzek, Programowanie w Matlabie dla elektryków, Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2005.

Additional bibliography:

1. B. Baron, Metody Numeryczne w Turbo Pascalu, HELION, Gliwice 1995.

Result of average student's workload

Activity	Time (working hours)
1. participation in class lectures	30
2. participation in the consultation	8
3. preparation for the completion of the lecture	15

Student's workload

Source of workload	hours	ECTS
Total workload	53	2
Contact hours	38	1
Practical activities	0	0