

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Control Engineering and computing science in industry and		Code 1010325341010324814
Field of study Electrical Engineering	Profile of study (general academic, practical) general academic	Year /Semester 2 / 4
Elective path/specialty Electrical and Computer Systems in	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) part-time	
No. of hours Lecture: 9 Classes: - Laboratory: - Project/seminars: -		No. of credits 1
Status of the course in the study program (Basic, major, other) other		(university-wide, from another field) university-wide
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 1 100% 1 100%
Responsible for subject / lecturer: Dr inż. Jerzy Frąckowiak email: jerzy.frackowiak@put.poznan.pl tel. 616652382 Elektryczny ul. Piotrowo 3A, 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge of automation, control theory, PLCs and microcontrollers.
2	Skills	The ability to understand and interpret the messages conveyed and effective self.
3	Social competencies	Awareness of the need to broaden their competence.
Assumptions and objectives of the course: Knowledge of PLC cooperation with microcontrollers.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. knowledge of PLC cooperation with microcontrollers - [K_W08++]		
2. selected interrupt PLC and microcontroller - [K_W08++]		
Skills:		
1. use the acquired knowledge to work PLCs and microcontrollers - [K_U15++]		
2. capacity for independent thinking and creative action - [K_U15++]		
Social competencies:		
Assessment methods of study outcomes		
Lecture: - final test.		
Course description		
PLCs - serial port, free port transmission mode, the selected interrupt PLC and microcontroller.		

Basic bibliography:		
1. Kamiński K.: Programowanie w Step 7 Microwin, GRYF, Warszawa 2006. 2. Dokumentacja sterownika S7-1200 firmy Siemens.		
Additional bibliography:		
1. Bubnicki Z.: Teoria i algorytmy sterowania, Wydawnictwo Naukowe PWN, Warszawa 2002.		
Result of average student's workload		
Activity	Time (working hours)	
1. participation in lectures	9	
2. consultations for lectures	6	
3. preparation for the completion of lectures	10	
4. credit lecture	1	
Student's workload		
Source of workload	hours	ECTS
Total workload	26	1
Contact hours	15	1
Practical activities	0	0