

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Control Engineering and computing science in industry and		Code 1010322331010324814
Field of study Electrical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 2 / 3
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) full-time	
No. of hours Lecture: 15 Classes: - Laboratory: - Project/seminars: -		No. of credits 2
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences		ECTS distribution (number and %) 2 100%
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. 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 mode transmission, 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	13	
2. consultations for lectures	10	
3. preparation for the completion of lectures	15	
4. credit lecture	2	
Student's workload		
Source of workload	hours	ECTS
Total workload	40	2
Contact hours	25	1
Practical activities	0	0