

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Laboratory of electronic circuits		Code 1010324391010325955
Field of study Electrical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 5 / 9
Elective path/specialty Measurement Systems in Industry and	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) part-time	
No. of hours Lecture: - Classes: - Laboratory: - Project/seminars: 9		No. of credits 1
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 Technical sciences		ECTS distribution (number and %) 1 100% 1 100%
Responsible for subject / lecturer: dr inż. Arkadiusz Hulewicz email: arkadiusz.hulewicz@put.poznan.pl tel. 61 665 25 46 Wydział Elektryczny ul. Piotrowo 3A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge in the scope of electrical engineering and electronics Basic knowledge in the area of electronic analogue circuits
2	Skills	Ability of the efficient self-education in the area concerned with design and construction of electronic circuits
3	Social competencies	Ability of the necessity of broadening of the competencies and the readiness of submitting the cooperation in a team
Assumptions and objectives of the course: - Knowledge of basis of design, assembly and starting of electronic circuits. - Knowledge of properties and application possibilities of analog transducers.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Ability to describe application possibilities of current measuring systems - [K_W14 +++, K_W18 +]		
Skills: 1. Ability to design the measuring systems creatively, using possibilities offered by new technologies, with regard of the limitations of the current level of knowledge and technique - [K_U03 ++] 2. Ability to work independently and as a team in design and construction companies - [K_U21 +]		
Social competencies: 1. Ability to think and act enterprisingly in the area of the measuring systems to be used in industry - [K_K01 +, K_K04 +]		
Assessment methods of study outcomes		
Projects: - continuous estimating with the tests, - awarding the skill increase, - evaluation of the knowledge and skills concerning the realization of an individual project, evaluation of the made final project.		
Course description		

<ul style="list-style-type: none"> - Basics of electronic circuits design. - Principles of electronic circuits design, that have to meet the given assumptions, and their independent assembly. - Assumptions to be used in assembly and starting of electronic circuits. - Starting and testing of the designed and constructed circuit. 		
Basic bibliography: <ol style="list-style-type: none"> 1. U. Tietze, Ch. Schenk, Układy półprzewodnikowe, WNT, Warszawa 2001 2. J. Zakrzewski, Czujniki i przetworniki pomiarowe, Wyd. Politechniki Śląskiej, Gliwice 2004 3. Z. Kulka, M. Nadachowski, Analogowe układy scalone, WKŁ, Warszawa 1985. 		
Additional bibliography: <ol style="list-style-type: none"> 1. A. Guziński, Liniowe elektroniczne układy analogowe, WNT, Warszawa 1994. 2. Z. Kulka, A. Libura, M. Nadachowski, Przetworniki analogowo-cyfrowe i cyfrowo-analogowe, WKŁ, Warszawa 1987 		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in projects classes	9	
2. Participation in consulting with the lecturer	3	
3. Realization of projects	20	
Student's workload		
Source of workload	hours	ECTS
Total workload	32	1
Contact hours	14	1
Practical activities	27	1