

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Diploma seminar		Code 1010324391010320081
Field of study Electrical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 5 / 9
Elective path/specialty Electrical Systems in Mechatronics	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: 18		No. of credits 13
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 %) 13 100% 13 100%
Responsible for subject / lecturer: dr hab. inż. Stanisław Rawicki, prof. PP email: Stanislaw.Rawicki@put.poznan.pl tel. 61 665 2595 Faculty of Electrical Engineering ul. Piotrowo 3A, 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Knowledge of the construction, methods of analysis and synthesis of electromagnetic transducers and fundamental knowledge related to the measurements methods used in the electrodynamics.
2	Skills	Knowledge of the construction, methods of analysis and synthesis of electromagnetic transducers and fundamental knowledge related to the measurements methods used in the electrodynamics.
3	Social competencies	Skills in teamwork and proper verbal communication, the awareness of the need to broaden their skills and knowledge.
Assumptions and objectives of the course: The student will obtain knowledge of the modern methods of investigation, design and analysis of actuators in automation, mechatronics, electromagnetic and electromechanical transducers.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. have knowledge of using copyright and protection of intellectual possession; knowledge of utilization of the patent information - [K_W21+++]		
Skills: 1. prepare and present the short presentation on the subject related to the problem connected with the electrical engineering - [K_U08+++] 2. make comparison of different design solutions, within the basic problems in the field of electrical engineering, taking into consideration chosen utilizable and economical criteria - [K_U12+++]		
Social competencies: 1. have awareness of importance of the own work and have readiness for submission to rules of work in the team and responsibility for common solving problems - [K_K03+] 2. have awareness of social function of university graduate, particularly understand necessity of formulation and transmission of information and opinions - relating to technique achievements and different aspects of engineering - for society; opinions must be clearly formulated - [K_K12+++]		
Assessment methods of study outcomes		

Seminar: ? evaluation on the ground of presentation means and results of realization of works, ? appraisal of the knowledge and skills necessary to realization of the subject of the thesis, ? effectiveness of using university knowledge within solving problems, ? frequent evaluation: the student activity, the knowledge and skills increase.		
Course description		
Computer-aided design of electromagnetic and electromechanical transducers. Unconventional electromechanical converters. Simulation of operating conditions of chosen machines. Analysis of electromagnetic field in chosen electromagnetic devices. Measuring stands for investigation of phenomena in transformers and mechatronics actuators.		
Basic bibliography: 1. Books, manuscripts, monographs, papers recommended by supervisors of diploma thesis		
Additional bibliography: 1. Books and papers on the subject of diploma thesis - found by a student		
Result of average student's workload		
Activity	Time (working hours)	
1. participation in project classes	18	
2. participation in consultations	65	
3. preparation of presentation	45	
4. realization of diploma thesis	160	
Student's workload		
Source of workload	hours	ECTS
Total workload	300	13
Contact hours	95	4
Practical activities	160	6