

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Diploma seminar		Code 1010325331010320081
Field of study Electrical Engineering	Profile of study (general academic, practical) general academic	Year /Semester 2 / 3
Elective path/specialty Electrical Systems in Mechatronics	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: - Classes: - Laboratory: - Project/seminars: 9		No. of credits 5
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		ECTS distribution (number and %)
Responsible for subject / lecturer: dr hab. inż. Rafał Wojciechowski email: Rafał.wojciechowski@put.poznan.pl tel. 616652396 Elektryczny 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	Familiarity with programs for numerical analysis of electromechanical transducers at the basic level, the basic skills to perform principal measurements of electrical machines and electromechanical actuators, effective self-study skills in a field related to the chosen major of study.
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. Student will have knowledge about progress trends and major achievements related to the electrical engineering and electronics, informatics and power engineering - [K_W04++] 2. Student will have structured and theoretically based knowledge related to design of devices and electrical systems with respect of their influence on the environment. - [K_W05+]		
Skills: 1. Student knows how to prepare and present presentation/information related to progress of design or research task, is ready to perform discussion about presentation - [K_U04++] 2. has skills to integrate obtained knowledge relate to electrical engineering, electronics, informatics and automation and other scientific disciplines. - [K_U15++]		
Social competencies: 1. Student is prepared to think in creative and enterprising way. - [K_K01+]		
Assessment methods of study outcomes		

Seminar: ? notes of knowledge and skills necessary to implement thesis tasks , ? effectiveness of the application of knowledge to solve problems ? continuous evaluation on each seminars: student activity, increase of its knowledge and skills, ? assessment of presentation showing progress on the thesis topic.		
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. Presentation of scientific activities in the Division of Mechatronics and Electrical Machines of PUT. Discussions on the students works in the student research group.		
Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Seminars	15	
2. Participate in the consultations	58	
3. Preparation for seminars	20	
4. Preparation of presentation showing progress on the thesis topic	10	
5. Realization of the thesis	20	
Student's workload		
Source of workload	hours	ECTS
Total workload	123	5
Contact hours	73	3
Practical activities	50	2