

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Diploma seminar</b>		Code <b>1010321271010320081</b>
Field of study <b>Electrical Engineering</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>4 / 7</b>
Elective path/specialty <b>Electrical Systems in Mechatronics</b>	Subject offered in: <b>polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>First-cycle studies</b>	Form of study (full-time, part-time) <b>full-time</b>	
No. of hours Lecture: - Classes: - Laboratory: - Project/seminars: <b>2</b>		No. of credits <b>12</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art <b>technical sciences</b> <b>Technical sciences</b>		ECTS distribution (number and %) <b>12 100%</b> <b>12 100%</b>
<b>Responsible for subject / lecturer:</b>  Ph. D. Wiesław Łyskawiński email: Wieslaw.Lyskawinski@put.poznan.pl tel. 61 665 2781 Faculty of Electrical Engineering ul. Piotrowo 3A, 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Elementary knowledge of the design and the analysis and synthesis of electromechanical converters and measurement methods used in mechatronics
2	<b>Skills</b>	Support programs for the numerical analysis of electromechanical converters at a basic level, skills in perform basic measurements of electrical and electromechanical, ability to effectively self-education in a field related to the chosen field of study
3	<b>Social competencies</b>	Ability to teamwork and verbal communication, the awareness of the need to broaden their skills and knowledge
<b>Assumptions and objectives of the course:</b> Harnessing modern testing methods, design and analysis of actuators for automatic control and mechatronics, and electromagnetic and electromechanical devices.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. Zna podstawy stosowania - [K_W21 +++]		
<b>Skills:</b>		
1. Potrafi przygotować i - [K_U08 +++] 2. Potrafi dokonać porównania różnych rozwiązań projektowych, w zakresie podstawowych zagadnień w obszarze elektrotechniki, ze względu na wybrane kryteria użytkowe i ekonomiczne - [K_U12 +++]		
<b>Social competencies:</b>		
1. . Ma świadomość ważności za pracę własną oraz gotowość podporządkowania się zasadom pracy w zespole i ponoszenia odpowiedzialności za wspólnie realizowane zadania - [K_K03 +] 2. . Ma świadomość roli społecznej absolwenta uczelni technicznej, a zwłaszcza rozumie potrzebę formułowania i przekazywania społeczeństwu informacji i opinii dotyczących osiągnięć techniki i innych aspektów inżynierii elektrycznej; przekazuje takie informacje i opinie w sposób powszechnie zrozumiały - [K_K05 +++]		
<b>Assessment methods of study outcomes</b>		

seminar: ? evaluation based on the presentation and the results of the work carried out, ? assess the knowledge and skills needed to carry out engineering work item, ? the effectiveness of the application of knowledge in problem solving, ? continuous evaluation for each course: student activities, increase their knowledge and skills.		
<b>Course description</b>		
Computer-aided design of electromagnetic and electromechanical converters. Unconventional electromechanical converters. Simulation of operating modes of selected machines. Analysis of the electromagnetic field in selected electromagnetic devices. Measurement stand to study phenomena in transformers and mechatronic systems.		
<b>Basic bibliography:</b> 1. Books, monographs and articles gived by theses promoters		
<b>Additional bibliography:</b> 1. Books and articles on the subject of dissertations - found by a student		
<b>Result of average student's workload</b>		
<b>Activity</b>	<b>Time (working hours)</b>	
1. participation in seminar classes	30	
2. participate in the consultations on the seminar	65	
3. preparing presentations	45	
4. implementation of theses	160	
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	300	12
Contact hours	95	4
Practical activities	160	6