STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Diploma seminar**		Code **1010322331010320081**
Field of study **Electrical Engineering**	Profile of study (general academic, practical) **(brak)**	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) **full-time**	
No. of hours Lecture: **-** Classes: **-** Laboratory: **-** Project/seminars: **30**		No. of credits **15**
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 %) **15 100%** **15 100%**

Responsible for subject / lecturer:

Prof. dr hab. inż. Andrzej Demenko
email: Andrzej.Demenko@put.poznan.pl
tel. +48 61 665 21 26
Elektryczny
ul. Piotrowo 3A, 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Elementary knowledge of the design and the analysis and synthesis of electromechanical converters and measurement methods used in mechatronics
2	**Skills**	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	**Social competencies**	Ability to teamwork and verbal communication, the awareness of the need to broaden their skills and knowledge

Assumptions and objectives of the course:

Harnessing modern testing methods, design and analysis of actuators for automatic control and mechatronics, and electromagnetic and electromechanical devices.

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 - [K_W04++]
2. Student will have structured and theoretically based knowledge related to design of devices and electrical systems - [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. Student knows how to acquire information from available literature, data bases and other sources, has skills to integrate obtained information and is ready to interpret knowledge, evaluate and draw proper conclusions. - [K_U01+]

Social competencies:

1. Student is prepared to think in creative and enterprising way - [K_K01+]

Assessment methods of study outcomes

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.

Course description

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.

Basic bibliography:

1. Books, monographs and articles gived by theses promoters

Additional bibliography:

1. Books and articles on the subject of dissertations - found by a student

Result of average student's workload

Activity	Time (working hours)
1. participation in seminar classes	30
2. participate in the consultations on the seminar	100
3. preparing presentations	73
4. implementation of thesis	177

Student's workload

Source of workload	hours	ECTS
Total workload	380	15
Contact hours	150	5
Practical activities	177	6