STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Diploma seminar**	Code **1010321361010320081**

Field of study **Electrical Engineering**	Profile of study (general academic, practical) **(brak)**	Year /Semester **3 / 6**
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) **full-time**

No. of hours Lecture: **-** Classes: **-** Laboratory: **-** Project/seminars: **15**	No. of credits **4**
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 %) **4 100%** **4 100%**

Responsible for subject / lecturer:

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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. The student knows the basic engineering technology related to the construction and design of electrical transducers in mechatronics. - [K_W18+]

2. The student know the basics of copyright and intellectual property protection, knows how to use the electronic and printed resources. - [K_W21+]

Skills:

1. The student knows how to use available literature resources, obtain information and interpret them to draw out proper conclusions. - [K_U05+++; K_U09+++]

2. The student can work individually and in a team, is able to estimate the time needed for the commissioned tasks and realize this task in manner of supposed time. - [K_U06+++]

Social competencies:

1. The student is aware of the value of his work, respect the principles of teamwork, takes responsibility for collaborative work - [K_K03+]

Assessment methods of study outcomes

http://www.put.poznan.pl/

Seminar:
? notes of knowledge and skills necessary to implement engineering topic,
? 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.

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. Seminars	15
2. Participate in the consultations	25
3. Preparation for seminars	10
4. Preparation of presentation showing progress on the thesis topic	25

Student’s workload

Source of workload	hours	ECTS
Total workload	75	4
Contact hours	40	2
Practical activities	50	2

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