STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Diploma seminar**		Code **1010325331010320081**
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) **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) **(brak)**	(university-wide, from another field) **(brak)**	
Education areas and fields of science and art **technical sciences** **Technical sciences**		ECTS distribution (number and %) **5 100%** **5 100%**

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. Ma wiedzę o trendach rozwojowych i najistotniejszych nowych osiągnięciach w zakresie inżynierii elektrycznej i ? w mniejszym stopniu ? z elektroniki, informatyki i energetyki - [K_W04++]
2. Ma uporządkowaną i podbudowaną teoretycznie wiedzę w zakresie projektowania urządzeń i układów elektrycznych z uwzględnieniem ich wpływu na środowisko - [K_W05+]

Skills:

1. Potrafi przygotować i przedstawić prezentację na temat realizacji zadania projektowego lub badawczego oraz poprowadzić dyskusję dotyczącą przedstawionej prezentacji - [K_U04++]
2. Potrafi integrować wiedzę z dziedziny elektrotechniki, elektroniki, informatyki, automatyki i innych dyscyplin, - [K_U15++]

Social competencies:

1. Potrafi myśleć i działać w sposób kreatywny i przedsiębiorczy - [K_K01+]

Assessment methods of study outcomes

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:

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