



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Diploma seminar

### Course

Field of study

Power Engineering

Area of study (specialization)

Level of study

Second-cycle studies

Form of study

part-time

Year/Semester

2/4

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

### Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

20

### Number of credit points

15

### Lecturers

Responsible for the course/lecturer:

dr hab. inż. Andrzej Tomczewski

Responsible for the course/lecturer:

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Wydział Automatyki, Robotyki i Elektrotechniki

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### Prerequisites

Student starting this subject should have knowledge, skills (including performing calculations and measurements of electrical and non-electrical quantities, writing computer programs, designing and building systems in the field of power engineering) and competences (including verbal communication and teamwork) acquired in previous years studies, including first-cycle, necessary to carry out research in the field of thesis.

### Course objective

Acquiring practical skills in defining the goal and justifying the selection of research topics, formulation and proving hypotheses as well as the selection of research methods, techniques and tools to solve the given task. Developing the ability to evaluate the obtained research results and to actively participate in



the discussion on the analyzed research problem. Improving skills related to the preparation and presentation of a presentation on research carried out for the purposes of the thesis.

### Course-related learning outcomes

#### Knowledge

1. has expanded knowledge on energy issues related directly to the topic of the thesis
2. has knowledge of the procedures for choosing methods, techniques and research tools to solve the task
3. has detailed knowledge of the diploma process

#### Skills

1. knows how to plan, carry out and develop the results of own research carried out for the purposes of the thesis
2. knows how to present, in the form of a multimedia presentation, and defend research theses related to the subject of the thesis
3. knows how to develop a concept and prepare a scientific paper as well as lead a discussion on a specialized issue related to the completed field of study

#### Social competences

1. understands the importance of knowledge in solving cognitive and practical problems
2. understands that in technology knowledge and skills are quickly becoming outdated and therefore require continuous replenishment

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Knowledge and skills acquired as part of the seminar classes are verified by:

- observation and assessment of class activity, especially during discussions on research topics presented by students
- assessment of the content and form of multimedia presentation of the results of own research obtained for the needs of the work carried out, with particular emphasis on the ability to clearly and precisely justify the selection of the subject and the methods, techniques and research tools used
- observation of progress in the preparation of the thesis through contact with promoters
- observation and assessment of student work regularity

### Programme content

Selection of the detailed topic of the thesis. Methodology for developing the goal and scope of research, selection of research methods, techniques and tools for the selected topic of the thesis, development of obtained results, conducting analyzes and determining conclusions. A multimedia presentation of the



results of scientific research related to the issue of master's thesis. Methodology for preparing a scientific paper related to the topic of research related to the completed field of study (student groups prepare a paper on conducting and describing research related to the master's thesis). Description of the diploma process: documents, procedures, dates, diploma exam - form, method of conducting, evaluation algorithm, scope of exam issues. Uniform Anti-Plagiarism System (JSA), principles of work, results of work analysis (general and detailed report), effects of plagiarism - ordinance of Rector on the obligation to check written diploma theses using JSA. Legal aspects of plagiarism.

### Teaching methods

Multimedia presentation supplemented with comments and examples given on the board, analysis / discussion of various methods (including unconventional) solutions to examples of problems and specific problems indicated in the topics of theses of individual students, taking into account various aspects of the problems solved: technical, economic, ecological, legal and social.

### Bibliography

Basic

1. Detailed guidelines for editing the diploma thesis developed at the Promoter Institute
2. Specialist literature about work topics

Additional

1. Exemplary engineering diploma theses

### Breakdown of average student's workload

	Hours	ECTS
Total workload	375	15,0
Classes requiring direct contact with the teacher	125	5,0
Student's own work (literature studies, preparation of the final paper, preparation of thesis presentation) <sup>1</sup>	250	10,0

<sup>1</sup> delete or add other activities as appropriate