COURSE DESCRIPTION CARD - SYLLABUS

Course name
Diploma seminar [S2Eltech1E-MSSwE>SD1]

Course

Field of study
Electrical Engineering

Year/Semester
1/2

Area of study (specialization)
Microprocessor Control Systems in Electrical Engineering

Profile of study
general academic

Level of study
second-cycle

Course offered in
English

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
0

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
15

Number of credit points

1,00

Coordinators

dr inż. Michał Krystkowiak
michal.krystkowiak@put.poznan.pl

Lecturers

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 electrical 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

Understanding the proposed issues of master's thesis and the pre-selection of the topic with justification. Understanding the principles of composition and editing of the master's thesis and conducting research (laboratory and simulation) in the area related to the topic of thesis. Initial literature recognition and participation in scientific research in the field of electrical engineering.

Course-related learning outcomes

Knowledge:
1. has knowledge of the latest solutions used in the energy sector in the context of the subject of the

thesis
2. has knowledge of the methodology of writing master's theses
3. has a basic knowledge of the principles of conducting and describing scientific research

Skills:
1. knows how to use the databases of scientific journals, including English-language literature
2. knows how to make a critical review of scientific literature on an indicated specific topic related to the field of study
3. is able to make scientific theses, determine directions of further learning and organize the process of self-education

Social competences:
Understands the need to comply with the principles of professional ethics and fulfill social obligations
Is aware of the need to develop professional achievements

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 the analysis of methods for solving research topics
- assessment of knowledge and skills needed to conduct scientific research in the field of written review of scientific literature
- assessment of the content and form of the presentation regarding the concept of solving the research problem undertaken as part of the thesis
- observation and assessment of student work regularity.

Programme content

Basic issues related to the preparation of a master's thesis, preparation for conducting scientific research, and presentation of the rules and elements of the thesis exam.

Course topics

Characteristics of the master's thesis, taking into account the differences from the engineering thesis. Discussion of proposed thesis topic areas. Discussion of the composition of the thesis and editorial guidelines and recommendations (formatting of the document, graphic elements). Principles of preparing a general presentation on the topic of the thesis. Methods of literature search in modern databases and the principles of its citation. Discussion of the elements of scientific research methodology and the principles of implementation of research carried out for the purposes of the master's thesis (within the framework of the class, students present one paper that is a conceptual solution to the problem of the master's thesis). Participation in scientific research conducted at the promoter's institute related to the Electrical Engineering course (using PP library resources - scientific journal databases Emerald Engineering, IEEE/IEE Electronic Library (IEL), ScienceDirect/Elsevier/ICM, Springer/ScienceDirect/ICM - student groups prepare a written review of scientific literature related to the scientific topic assigned by the instructor). Fundamentals of copyright and related rights.

Teaching methods

Multimedia presentation supplemented with comments and examples given on the board, analysis and discussion of various methods (including unconventional) solutions to research issues, including 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

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Breakdown of average student's workload

	Hours	ECTS
Total workload	30	1,00
Classes requiring direct contact with the teacher	15	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	15	0,50