COURSE DESCRIPTION CARD - SYLLABUS

Course name
Preparation of master's thesis [S2Elmob1-PAiME>PPM]

Course

Field of study
Electromobility

Year/Semester
2/3

Area of study (specialization)
Alternative Fuels and Energy Storage

Profile of study
general academic

Level of study
second-cycle

Course offered in
Polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
0

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
60

Number of credit points

11,00

Coordinators

dr hab. inż. Leszek Kasprzyk prof. PP
leszek.kasprzyk@put.poznan.pl

Lecturers

Prerequisites

The student should have the basic knowledge, skills and competencies acquired in the earlier years of study, enabling the realization of a team master's thesis.

Course objective

The purpose of the graduation process is to deepen the theoretical knowledge, related to the selected topic of the work, to acquire the ability to solve engineering analytical problems, to prepare for scientific research, as well as for team implementation of the application that is the subject of the work. The main objective is the independent or team realization by the student(s) of complex program content in accordance with the specific tasks given in the thesis topic sheet.

Course-related learning outcomes

Knowledge:
1. Has knowledge of the development trends, new developments and dilemmas of modern engineering.
2. has a structured and theoretically supported knowledge of the design of equipment and systems for electromobility, taking into account their impact on the environment.
3. Has a basic knowledge of the principles of conducting and describing scientific research.

Skills:
1. Is able to obtain information from literature, databases and other sources, interpret, evaluate, critically analyze and synthesize it, as well as draw conclusions and formulate them and fully justify opinions.
2. Is able to work individually and in a team, is able to lead a team in a way that ensures the completion of the task within the assumed deadline; is able to determine directions for further learning and organize the process of self-education and that of other people.
3. Is able to prepare and present a presentation on the implementation of a project or research task and lead a discussion on a specialized issue with a diverse audience.
4. Is able to plan the testing process of complex equipment and systems in electromobility.
5. Is able - when formulating and solving non-standard engineering tasks and simple research problems - to apply a system approach, take into account non-technical aspects, use information and communication methods and tools.
6. Is able - when formulating and solving engineering tasks - to integrate knowledge from different sources and related disciplines and apply analytical, simulation and experimental methods.
7. Is able to evaluate and propose improvement of technical and technological solutions in the area related to the studied direction.
8. Knows how to make a critical review of scientific literature on an indicated specific topic related to electromobility.

Social competences:
1. Recognizes the importance of knowledge in solving cognitive and practical problems, and understands that in technology, knowledge and skills quickly become obsolete, and therefore require constant replenishment.
2. Is aware of the need to develop professional achievements and observe professional ethics, fulfill social obligations, inspire and organize activities for the benefit of the social environment.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

1. Continuous evaluation, through systematic consultations to check the substantive correctness and degree of advancement of the master's thesis.
2. Evaluation of the growth of the ability to use the learned principles and methods.
3. Evaluation of the results of the implementation of the master's thesis.

Programme content

The subject of the master's thesis is the implementation of the program content in accordance with the specific tasks given in the master's thesis topic sheet. The thesis is carried out individually or in groups (usually 2 persons). The final result is the submission of a master's thesis. If required by the purpose of the thesis, it must have working software or a prototype and technical and user documentation.

Course topics

The subject of the master's thesis is the implementation of the program content in accordance with the specific tasks given in the master's thesis topic sheet, defined by the thesis promoter or a business entity cooperating with the University. The thesis is carried out individually or in groups (usually 2 persons) under the supervision of the thesis supervisor or the thesis supervisor and a supervisor designated by the thesis supervisor. The final result is the submission of a master's thesis. If required by the purpose of the thesis, it must have working software or a prototype and technical and user documentation.

Teaching methods

Consultation on the thesis topics in progress with the thesis supervisor, workshops/training sessions, discussions within the thesis team on the thesis presented.

Bibliography

Basic:
Scientific and technical literature: textbooks, monographs, articles, catalogs, websites, documentation,

guidelines and standards provided by the thesis supervisors.

Additional:
1. Sample master's theses.
2. Scientific articles indicated by the supervisor.

Breakdown of average student's workload

	Hours	ECTS
Total workload	275	11,00
Classes requiring direct contact with the teacher	60	3,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	215	8,00