



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Internships

### Course

Field of study

Electromobility

Area of study (specialization)

-

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

2/4

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

120

### Number of credit points

4

### Lecturers

Responsible for the course/lecturer:

Krzysztof Wandachowicz, Ph.D, D. Sc., Eng.

Responsible for the course/lecturer:

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Faculty of Control, Robotics and Electrical

Engineering

Piotrowo 3A Street, 60-965 Poznań

### Prerequisites

A student starting this subject should have basic knowledge, skills and social competences resulting from the implementation of the study program for the field of Electromobility in the group of basic and major subjects.

### Course objective

Gaining practical knowledge of issues related to the field of study.

### Course-related learning outcomes

Knowledge

1. Has a general knowledge of the life cycle, design and operation of hybrid and electric vehicles, as well



as the infrastructure dedicated to their power and charging; knows and understands the principle of their operation.

2. Knows and understands the processes taking place in the life cycle of electrical and electronic systems included in electromobility systems.
3. Knows and understands the fundamental dilemmas of modern civilization related to the mass use of electromobility; is aware of the latest development trends related to the field of study.
4. Has basic knowledge necessary to understand social, ethical, economic, ecological, legal and other non-technical determinants of engineering activity.
5. Has a basic knowledge of creating, managing, conducting and developing economic activity related to the given qualification.
6. Has a basic knowledge of patents and the application of copyright law, the act on the protection of personal data and industrial and intellectual property.

#### Skills

1. He can test and diagnose simple systems and devices related to the electromobility area and use them in accordance with the requirements and technical documentation.
2. Can, with the use of appropriately selected methods and tools, make a critical analysis and evaluation of the functioning of existing technical solutions in electric and hybrid vehicles and the infrastructure intended for their power supply and charging.
3. On the basis of technical documentation, using appropriate methods, tools and materials, he is able to make and start up typical electrical and electronic systems and devices used in electromobility.
4. Is able to prepare and present a presentation on a task related to the field of study, communicates using specialized terminology, presents and justifies various opinions and positions.
5. Can plan and organize work individually and in a team (including the development and implementation of a work schedule ensuring meeting the deadline), applies the principles of occupational health and safety, and knows how to work in interdisciplinary teams.

#### Social competences

1. Can think and act in an entrepreneurial way in the field of electromobility.
2. Is aware of the importance of their own work and the need to follow the rules of professional ethics, is ready to submit to the rules of teamwork and responsibility for jointly performed tasks, as well as care for the achievements and traditions of the profession.

#### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

An internship report certified by the internship tutor. An internship certificate issued by the host entity for the internship. A questionnaire describing the achieved learning outcomes.



## Programme content

Training in occupational health and safety and fire regulations. Acquainting with the applicable work regulations and conditions for the protection of state and official secrets. Acquainting with the structure and functioning of the enterprise (institution). Implementation of an individual internship program. Preparation of a report on the course of internships.

## Teaching methods

Teaching methods should be adapted to the individual internship program.

## Bibliography

Basic

1. Regulamin organizacji praktyk studenckich objętych programem studiów na Wydziale Automatyki, Robotyki i Elektrotechniki.
2. Regulamin studiów stacjonarnych i niestacjonarnych pierwszego i drugiego stopnia uchwalony przez Senat Akademicki Politechniki Poznańskiej.

Additional

1. Obwieszczenie Ministra Gospodarki, Pracy i Polityki Społecznej z dnia 28 sierpnia 2003 r. w sprawie ogłoszenia jednolitego tekstu rozporządzenia Ministra Pracy i Polityki Socjalnej w sprawie ogólnych przepisów bezpieczeństwa i higieny pracy. Dz.U. 2003 nr 169 poz. 1650.

## Breakdown of average student's workload

|                                                                                                                                                                      | Hours | ECTS |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|
| Total workload                                                                                                                                                       | 120   | 4,0  |
| Classes requiring direct contact with the teacher                                                                                                                    | 120   | 4,0  |
| Student's own work (literature studies, preparation for design classes, preparation of the project, implementation of an individual internship program) <sup>1</sup> | 0     | 0,0  |

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