



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Electrical installations [S1Elmob1>IE1]

### Course

Field of study

Electromobility

Year/Semester

2/4

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

0

Laboratory classes

15

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

### Number of credit points

1,00

### Coordinators

dr inż. Krzysztof Kowalski

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### Lecturers

### Prerequisites

A student starting this course should have basic knowledge of the basics of electrical engineering and power engineering, as well as the ability to use Windows and the ability to effectively self-educate and be ready to work in a project group.

### Course objective

Principles of creating electrical diagrams. The use of professional computer tools in drawing electrical diagrams.

### Course-related learning outcomes

Knowledge:

1. Has basic and systematic knowledge in the field of construction, design and operation of power installations and networks.
2. Knows the methodology of designing electrical installations, the software used for this purpose and is familiar with modern installation technology.

Skills:

1. Can compare different variants of supplying consumers and receivers with regard to the given criteria.
2. Is able to develop design documentation for electrical installations with the use of specialized software.

Social competences:

1. Is aware of the responsibility of the electrical engineer, in particular of the impact of his activity on the safe use of electrical installations.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Laboratory:

The skills acquired during the laboratory classes are verified on the basis of current tasks carried out during the classes and control work. Passing threshold: 50% of points.

### Programme content

Basics of creating electrical diagrams in graphic language.

### Course topics

Laboratory

Introduction to EPLAN. Establishing and managing projects. Automatic call generation. Multi-line and single-line diagrams. Implementation of sample projects of control and power systems in the EPLAN program. Automatic generation of statements and project documentation.

### Teaching methods

Laboratory:

Implementation of design exercises using the known EPLAN schematic creation tools.

### Bibliography

Basic:

1. Markiewicz H.: Instalacje elektryczne, WNT, Warszawa 2017.
2. Niestępski S., Parol M., Pasternakiewicz J., Wiśniewski T.: Instalacje elektryczne. Budowa projektowanie i eksploatacja, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2019.
3. EPLAN documentation.

Additional:

1. Orlik W.: Egzamin kwalifikacyjny elektryka w pytaniach i odpowiedziach, KaBe S. C., Krosno 2018.
2. Standards and regulations related to electrical installations.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	29	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)	14	0,50