



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Electrical installations in industry and vehicles [N2Eltech2-UEPP>IEPP]

Course

Field of study

Electrical Engineering

Year/Semester

2/3

Area of study (specialization)

Electrical Systems in Industry and Vehicles

Profile of study

general academic

Level of study

second-cycle

Course offered in

Polish

Form of study

part-time

Requirements

compulsory

Number of hours

Lecture

0

Laboratory classes

10

Other

0

Tutorials

0

Projects/seminars

0

Number of credit points

1,00

Coordinators

dr inż. Arkadiusz Dobrzycki

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Lecturers

Prerequisites

A student starting this course should have knowledge in the field of electrical engineering, power engineering, as well as basic knowledge of engineering software and the principles of preparing project documentation.

Course objective

Acquainting with the principles of designing low voltage electrical installations and distribution networks; in particular, the method of preparing design documentation for electrical installations.

Course-related learning outcomes

Knowledge:

1. has systematic knowledge of building, designing and operation of power installations and networks
2. knows the methodologies of designing electrical installations, the software used for this purpose and is familiar with modern installation technology

Skills:

1. is able to compare different variants of supplying consumers and receivers with regard to the set

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 activities on the safety of the use of electrical installations

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Laboratory: ongoing evaluation of the performance of individual laboratory tasks; evaluation of a final task; assessment of active participation in classes

Programme content

The use of engineering software in the process of designing electrical installations.

Course topics

Laboratory:

Principles of designing electrical installations, requirements for design documentation. Rules for the selection of cables and protections. Planning of protection against electric shock, surge and fire. Computer-aided designing of electrical installations

Teaching methods

Laboratory:

Analysis of various technical solutions and aspects of solved problems, including: economic, ecological, legal, social, etc. Preparation of documentation fragments, calculations and selections for selected case studies.

Bibliography

Basic:

1. Markiewicz H.: Instalacje elektryczne, WNT, Warszawa 2017.
2. Lejdy B.: Instalacje elektryczne w obiektach budowlanych, WNT, Warszawa 2003.
3. Niestępski S., Parol M., Pasternakiewicz J., Wiśniewski T.: Instalacje elektryczne. Budowa projektowanie i eksploatacja, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2019.
4. Orlik W.: Egzamin kwalifikacyjny elektryka w pytaniach i odpowiedziach, KaBe S. C., Krosno 2018.
5. IEC 60364 Electrical Installations for Buildings
6. The Electrical Installation Guide (available online: <https://www.electrical-installation.org>)
7. Standards and regulations related to electrical installations.

Additional:

1. Dobrzycki A., Analiza parametrów energii elektrycznej w przedsiębiorstwie produkcyjnym branży aluminiowej, Academic Journals Poznan University of Technology, nr 74, 2013, 119-126
2. Thematic websites.
3. Catalogs of manufacturers of wiring and installation devices.
4. Engineering software documentation.

Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,00
Classes requiring direct contact with the teacher	10	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	15	0,50