COURSE DESCRIPTION CARD - SYLLABUS

Course name
Safety and ergonomics of using electrical devices [S1Elmob1>BiEUUE]

Course

Field of study
Electromobility

Year/Semester
2/3

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
15

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
0

Number of credit points

1,00

Coordinators

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Lecturers

Prerequisites

A student starting this course should have basic knowledge in the field of electrical engineering and physics.

Course objective

Acquainting with the principles of safe use of electrical devices. Understanding the effects of current flow through the human body. Understanding the requirements for people responsible for the operation of electrical devices.

Course-related learning outcomes

Knowledge:
1. knows the phenomena affecting the condition of electrical devices
2. has basic and systematic knowledge in the field of safe operation of electrical devicesy

Skills:
1. is able to assess the condition of an electrical device in terms of the given criteria and plan operational tasks under specific conditions

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 devices

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:
Lecture: assessment of knowledge and skills demonstrated on the written test. Passing threshold: 50% of the total number of points.

Programme content

The influence of electric current on the human body. Protection against electric shock in electrical installations. Ergonomic issues for electrical devices.

Course topics

Lecture:
The influence of electric current on the human body. Principles of organization of work with electrical and power devices (legal requirements). Protection against electric shock in electrical installations - applicable regulations and applied protection measures. Requirements for persons responsible for the operation of electrical devices. Electrician qualification exam - scope and rules of conducting. Ergonomic requirements for electrical devices.

Teaching methods

Lecture:
Lecture with a multimedia presentation (including: drawings, photos, animations, sound, films) supplemented with examples given on the board, lecture conducted in an interactive way with the formulation of questions to a group of students or to specific students, initiation of discussions during the lecture, taking into account various aspects presented issues, including: economic, ecological, legal, social, etc., presenting a new topic preceded by a reminder of related content, known to students from other subjects.

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. Markiewicz H.: Bezpieczeństwo w Elektroenergetyce, WNT, Warszawa 2014.
5. Normy i rozporządzenia związane z instalacjami elektrycznymi.
Additional
1. Tytyk E., Bezpieczeństwo i higiena pracy, ergonomia i ochrona własności intelektualnych; Wydawnictwo Politechniki Poznańskiej, Poznań, 2017
2. Tytyk E., Butlewski M., Ergonomia w technice; Wydawnictwo Politechniki Poznańskiej, Poznań, 2011
3. Horst W., Ryzyko zawodowe na stanowisku pracy, Część I. Wyd. Politechniki Poznańskiej, Poznań, 2004
4. Koradecka D. (red.), Bezpieczeństwo pracy i ergonomia (2 tomy); Wydawnictwo Centralnego Instytutu Ochrony Pracy, Warszawa, 1999
5. Orlik W.: Egzamin kwalifikacyjny elektryka w pytaniach i odpowiedziach, KaBe S. C., Krosno 2018.

Breakdown of average student's workload

	Hours	ECTS
Total workload	28	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)	13	0,50