



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Health and safety work

### Course

Field of study

Electromobility

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

1/1

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

### Number of hours

Lecture

15

Laboratory classes

Tutorials

Projects/seminars

Other (e.g. online)

### Number of credit points

1

### Lecturers

Responsible for the course/lecturer:

dr Katarzyna Szwedzka

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Responsible for the course/lecturer:

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### Prerequisites

Student have basic knowledge of physics and electrical equipment. Student is aware of the need to broaden competences and is ready to cooperate within the team.

### Course objective

Acquisition of knowledge by students the field of removing or reducing risks related to technical processes in the working environment, including: electricity effects on the human body and the resulting risks resulting from electrical equipment use. Mastering the basics safety of anti-exposure and fire protection.

### Course-related learning outcomes

Knowledge

Student knows the principles of safe and ergonomic use of devices and installations used in hybrid and electric vehicles and the infrastructure used to power and charge them - K1\_W08



Students have the basic knowledge which is necessary to understand the social, ethical, economic, ecological, legal and other non-technical conditions of engineering activities.

#### Skills

Students are able to formulate and resolve electro mobility tasks, taking account of their systemic and non-technical aspects, including environmental, economic and legal aspects.

Students can plan and organize work as an individual and in a team (including drafting and implementing a work schedule to ensure that the deadlines are met), apply health and safety principles and work in teams of an interdisciplinary nature.

#### Social competences

Students are aware of the importance of their own work and the need to observe the principles of professional ethics. They are ready to submit to the principles of teamwork and to take responsibility for jointly performed tasks, as well as to take care of the achievements and traditions of the engineering profession.

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

Learning outcomes presented above are verified as follows:

Formal assessment:

- based on the discussion of the material learned during previous lectures; attendance at lectures is rewarded.

Summary evaluation:

- written test.

The following criterion is used for the final grade:

- a) 91 - 100% (5.0);
- b) 81 - 90% (4.5);
- c) 71 - 80% (4.0);
- d) 61 - 70% (3.5);
- e) 50 - 60% (3.0);
- f) below 50% (2.0).

#### Programme content

Basic concepts, main subjects and tasks of health and safety at work. Environment working factors of greatest importance in the power industry. Electromagnetic natural fields and those coming from technical devices as a threatening factor of human health. Noise influence caused by the work of electrical equipment at the working environment. Basic legal acts concerning the work safety in the



power industry. Electric impact current on the human organism. Rules conduct in case of electric shock. First help in case of electric shocks. Protection done against electric shock. Work organization with electrical equipment. Occupational safety during operation, maintenance, repair, overhaul and construction of electrical equipment.

### Teaching methods

Lectures with multimedia presentation

### Bibliography

Basic

1. Projektowanie ergonomiczne; Tytyk E., Wyd. Naukowe PWN, Warszawa-Poznań, 2001.
2. Poradnik BHP. Tom I: Praktyka, prawo, narzędzia, Kołodziejczyk E. (red.), Wyd. Forum, sp. z o.o. , Warszawa, 2005.
3. Pojazdy hybrydowe i elektryczne; Schmidt T., Wyd. Komunikacji i Łączności, Warszawa,2018.
4. Ocena ryzyka zawodowego przy eksploatacji urządzeń elektroenergetycznych; Daszczyzak M., Energetyka, 1/2005.
5. Ryzyko zawodowe w spółkach dystrybucyjnych energii elektrycznej; Studenski R., ODDK, Gdańsk, 2001.

Additional

1. Wpływ poziomu niezawodności na poziom bezpieczeństwa pracowników; Daszczyzak M., Przegląd Elektrotechniczny 1/2005.
2. Samochody elektryczne; Fic B., Wydawnictwo i handel książkami KaBe, Krosno, 2019.
3. Podstawy ergonomii i fizjologii pracy; Olszewski J., Wyd. Akademii Ekonomicznej, Poznań, 1997.
4. Niezawodność człowieka w interakcji z procesem przemysłowym; Sławińska M., Wyd. Politechniki Poznańskiej, Poznań, 2012.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,0
Classes requiring direct contact with the teacher	15	0,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	10	0,5

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