COURSE DESCRIPTION CARD - SYLLABUS

Course name
CAD in electric power engineering

Course

Field of study
Electrical power engineering

Year/Semester
1/1

Area of study (specialization)
-

Profile of study
general academic

Level of study
Second-cycle studies

Course offered in
polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
0

Laboratory classes
30

Other (e.g. online)
0

Tutorials
0

Projects/seminars
0

Number of credit points

2

Lecturers

Responsible for the course/lecturer:
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Responsible for the course/lecturer:
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Prerequisites

Basic knowledge of the electric circuits theory, geometry and stereometry. The ability to obtain information from the indicated sources. Spatial imagination. Awareness of responsibility for decisions made in the process of engineering calculations. Willingness to cooperate in a team.

Course objective

The aim of the course is to acquire knowledge of modern 2D and 3D computer aided design (CAD) software. Acquiring the ability to make diagrams and drawings in accordance with the rules of installation technical drawing, for design purposes with use of computer-aided design software (CAD).

Course-related learning outcomes

Knowledge

Student has knowledge related to the use of two-dimensional and three-dimensional computer aided design (CAD) in the implementation of electric power projects.

Skills

Student is able to prepare graphic documentation of electric power devices and installations using the rules of technical installation drawing and computer aided design systems (CAD type).

Social competences

Student is aware that correctly designed power devices and installations are essential for the reliability and safety of the power system and its users. Student is responsible for the reliability of the obtained results and their interpretation. Student is able to define priorities in the implementation of tasks set by himself and others, and critically assess the results of his own work.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Laboratory classes:

- current check and rewarding knowledge necessary for the accomplishment of the problems in the area of laboratory tasks,

- the preparation of materials for the project is evaluated,

- rewarding activities related to the implementation of laboratoy classes,

- substantive preparation for the implementation of the assigned project is evaluationed,

- implementation of the design task in the CAD system.

Programme content

Laboratory classes:

Classes discussing the regulations of the laboratory, topics of laboratory classes and OHS training related to the operation of laboratory positions. To perform 12 two-hour laboratory classes in the field of lecture.

Introduction to the work environment. View the drawing. Coordinates and basic drawing tools. Create two-dimensional geometry. Modifying two-dimensional geometry. Managing the features of objects. Construction techniques. Test objects and their styles. Introduction to dimensioning. Hatching - types and types of hatching. Introduction to print. Creation of electrical diagrams. Elements of electrical diagrams. Editing electrical diagrams. Schema reports. Creation of assembly diagrams. Create your own items.

Teaching methods

Laboratory classes:

- object-orientedpresentations supported by illustrated examples presented on the board,

- conducting classes in a computer room with the use od software to calculations and design,

- initiating teamwork.

Bibliography

Basic

1. Kurs AutoCAD 2010 VIDEO, GlobalProfit, Gluchołazy, 2009.

2. Gorzelańczyk, P. Komputerowe wspomaganie grafiki inżynierskiej, Wydawnictwo Państwowej Wyższej Szkoły Zawodowej im. Stanisława Staszica, Piła, 2014.

3. Grodecka, M. Autodesk projekty i realizacje. T. 2, Tech Data Polska Sp. z o.o., 2011.

4. Jaskulski, A. AutoCAD 2021 PL/EN/LT. Metodyka efektywnego projektowania parametrycznego i nieparametrycznego 2D i 3D, Helion, 2020 .

5. Leach, J.A.; Lockhart, S. AutoCAD 2021 Instructor Perfect Paperback, SDC, 2020.

Additional

1. Michel, K.; Sapiński, T. Rysunek techniczny elektryczny, Wydawnictwa Naukowo-Techniczne, Warszawa, 1987.

2. Międzynarodowy słownik terminologiczny elektryki - Część 151: Urządzenia elektryczne i megnetyczne PN-IEC 60050-151, Polski Komitet Normalizacyjny, Warszawa, 2003.

3. Dombek, G.; Książkiewicz, A. Automatyka budynkowa oparta na przekaźnikach programowalnych firmy Relpol. Elektronik, 2017, nr 3, pp. 44-45.

4. Standards.

5. Internet publications.

Breakdown of average student's workload

	Hours	ECTS
Total workload	55	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes, preparation of a design task, project defense) [1]	25	1,0

[1] delete or add other activities as appropriate