FACULTY OF ELECTRICAL ENGINEERING

SUBJECT CARD

Name in Polish:	**Nowoczesne aparaty elektryczne 1**
Name in English:	**Modern electrical devices 1**
Main field of study (if applicable):	**Electrical Engineering**
Specialization (if applicable):	**Electrical Power Engineering**
Level and form of studies:	**2nd level, full-time**
Kind of subject:	**obligatory**
Subject code:	**ELR052417**
Group of courses:	**NO**

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU):	15				
Number of hours of total student workload (CNPS):	30				
Form of crediting:	crediting with grade				
For group of courses mark (X) final course:					
Number of ECTS points:	1				
including number of ECTS points for practical (P) classes :					
including number of ECTS points for direct teacher-student contact (BK) classes:	0.70				

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. The student should have knowledge of the construction, operation and phenomena occurring in electrical devices
2. He knows the rules for the selection and design of protection for low and high voltage electrical installations as well as electric motors and drives.

SUBJECT OBJECTIVES

C1. Knowledge of the construction and operating principles of modern designs of switching devices and protection units in low voltage circuits.
C2. Knowledge of the possibilities of using modern electrical appliances in power installations and networks.
C3. Knowledge of the development trends of electrical devices.

SUBJECT LEARNING OUTCOMES

relating to knowledge:

PEU_W01 He has in-depth knowledge of the construction and operation of electrical devices of modern design.
PEU_W02 Has knowledge of the use of modern electrical devices
PEU_W03 He knows the development trends of electrical devices.

relating to skills:

relating to social competences:

PROGRAMME CONTENT

	Form of classes - lecture	Number of hours:
Lec 1	Classification, functions and parameters of modern electrical devices.	2
Lec 2	Modern sources of reserve power supply.	2
Lec 3	Modern measuring equipment used in industrial and power plants.	2
Lec 4	Modern electrical devices with modular characteristics.	2
Lec 5	Remote control of modern electrical devices.	2
Lec 6	Diagnosis of modern electrical devices.	2
Lec 7	Reliability of modern electrical devices.	2
Lec 8	Final test	1
	Total hours:	**15**

TEACHING TOOLS USED
N1. Multimedia presentation.

EVALUATION OF SUBJECT LEARNING OUTCOMES ACHIEVEMENT		
Evaluation *F – forming (during semester)* *P – concluding (at semester end)*	**Educational effect number**	**Way of evaluating educational effect achievement**
F1(W)	PEU_W01 PEU_W02 PEU_W03	Test
P(W)	P=F1	

PRIMARY AND SECONDARY LITERATURE
PRIMARY LITERATURE:
Turan Gonen Electrical PowerTransmission System Engineering: Analysis and Design, ISBN 978148223226, May14 by CRC Press
SECONDARY LITERATURE:

SUBJECT SUPERVISOR
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