STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Electrical Power Engineering		**1010321351010312426**

Field of study	Profile of study (general academic, practical)	Year /Semester
Electrical Engineering	**(brak)**	**3 / 5**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
-	**Polish**	**obligatory**

Cycle of study:	Form of study (full-time,part-time)
First-cycle studies	**full-time**

No. of hours				No. of credits
Lecture: **15**	Classes: **-**	Laboratory: **-**	Project/seminars: **-**	**1**

Status of the course in the study program (Basic, major, other)	(university-wide, from another field)
(brak)	**(brak)**

Education areas and fields of science and art	ECTS distribution (number and %)
technical sciences	**1 100%**
Technical sciences	**1 100%**

Responsible for subject / lecturer:

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Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of the mathematics, physics and theoretical electrotechnics and of the basic knowledge of electrical power engineering in the previous semester
2	**Skills**	Ability to effectively self-education in a field related to the chosen field of study
3	**Social competencies**	Is aware of the need to broaden their competence, willingness to work together as a team

Assumptions and objectives of the course:

Acquiring knowledge of structure and characteristics of electric power system. Knowledge of physical fundamentals of electric energy generation in various types of power plants. Methods and rules for electrical power networks calculations

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. It has a general knowledge of issues relating to distributed and non-conventional energy sources - [K_W24+++ K_W18++]
2. It has basic information on the analysis of steady-state and short-circuit electric power systems - [K_W24+++]
3. It has a basic knowledge of analysis of stability transmission and of quality of electricity supplied to - [K_W24+++]

Skills:

1. It can classify the electricity generation technologies and to analyze the efficiency of energy conversion occurring in different types of generation sources - [K_U20++K_U12++]
2. Able to explain the basic principles of regulatory processes in the power system and to explain the functioning of the power protection automation - [K_W22++]

Social competencies:

1. Understand the need to promote energy efficiency and reducing harmful effects on the environment of the electricity sector - [K_K02++]

Assessment methods of study outcomes

- assess the knowledge and skills listed on the written exam,
- continous grading knowledge and skills on each lecture by disscussion regarding actual problems in the electric power engineering.

Course description
Gas and gas-steam power plants Combined heat and power plants. Power plants using renewable energy sources. Essential requirements stood networks, reliability. Short-circuit analysis and standard based short-circuit calculations. Basics of power system stability.
Basic bibliography:
Additional bibliography:

Result of average student's workload	
Activity	**Time (working hours)**
1. participation in the lectures	15
2. participation in consultations on the lecture	3
3. preparation for the exam	12
4. participation in the exam	3

Student's workload		
Source of workload	**hours**	**ECTS**
Total workload	33	1
Contact hours	21	1
Practical activities	0	0