STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
(-)		**1010324371010318919**
Field of study	Profile of study (general academic, practical)	Year /Semester
Electrical Engineering	**(brak)**	**4 / 7**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
-	**Polish**	**obligatory**
Cycle of study:	Form of study (full-time,part-time)	
First-cycle studies	**part-time**	
No. of hours		No. of credits
Lecture: **20** Classes: **-** Laboratory: **-** Project/seminars: **-**		**2**
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		**2 100%**
Technical sciences		**2 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Student has a knowledge in the scope of basic definitions concerning power companies and knows basic principles of economics.
2	**Skills**	Student is able to determine the dependencies between the entities operating on the market.
3	**Social competencies**	Student is ready to teamwork and to make a decision

Assumptions and objectives of the course:

To acquaint methods of evaluation of economic effectiveness of power investments on the basis of criterion of minimum wastes (criterion of power limit)for transformers and power lines. To acquaint basis of financial management of power enterprises.

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

Knowledge:

1. Student has a knowledge in the scope of the basis of financial management of power enterprises - [K_W20 +K_W22++K_W23 ++++++K_W25 ++++, K_W27+++]
2. Student has a knowledge of power and energy losses for transformers and power lines basis of criterion of minimum wastes (criterion of power limit) - [K_W20++K_W24++ K_W27+++ K_W27+]

Skills:

1. Student is able to calculate losses of power and energy - [K_U07+K_U08++K_U16+++K_U16++]
2. Student is able to calculate losses of power and energy for transformers and power lines basis of criterion of minimum wastes (criterion of power limit) - [K_U01++, K_U03+, K_U14++, K_U20+++, K_U20++]

Social competencies:

1. Has a consciousness of economy aspects power company conducting on market. - [K_K02+K_K05++++++]

Assessment methods of study outcomes

Lecture

- evaluation of knowledge and competitions by written test (13 week),

permanent evaluation during every classes (rewarding for activity)

Classes

evaluation of knowledge and competitions by written test connected with calculation exercises

permanent evaluation during every classes (rewarding for activity)

evaluation of competence to use acquainted methods and rules

Course description

Financial economy of power companies. Losses of power and energy. Criterion of power limit (criterion of minimum of losses)

Basic bibliography:

1. Bartnik R.: Rachnek efektywności techniczno-ekonomicznej w energetyce zawodowej, Oficyna Wydawnicza Politechniki Opolskiej, Opole 2008.

2. Góra S., Gospodarka elektroenergetyczna w przemyśle, Państwowe Wydawnictwo Naukowe, Warszawa, 1975.

3. Soliński I.: Ekonomika i organizacja sektorów systemu paliwowo-energetycznego, Uczelniane Wydawnictwa Naukowo-Dydaktyczne AGH, Kraków 2000.

4. Sierpińska M., Jachna T., Ocena przedsiębiorstwa według standardów światowych, Wydawnictwo Naukowe PWN, Warszawa, 2017

5. Paska J., Ekonomika w elektroenergetyce, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2007.

6. Laudyn D., Rachunek ekonomiczny w elektroeneregtyce, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 2007.

Additional bibliography:

1. Ustawa z dnia 10 kwietnia 1997 r. PRAWO ENERGETYCZNE z Rozporządzeniami Ministra Gospodarki w sprawie szczegółowych zasad kształtowania i kalkulacji taryf oraz zasad rozliczeń w obrocie energia elektryczną.

2. Drury C., Rachunek kosztów Wydawnictwo Naukowe PWN, Warszawa, 1996.

3. Janasz W, Podstawy ekonomii przemysłu, Wydawnictwo Naukowe PWN, Warszawa, 1997.

Result of average student's workload

Activity	Time (working hours)
1. participation in lectures	20

Student's workload

Source of workload	hours	ECTS
Total workload	40	2
Contact hours	30	1
Practical activities	0	0