

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Subjects preparing for energy companies operating in the mar		Code 1010314351010326973
Field of study Power Engineering	Profile of study (general academic, practical) general academic	Year /Semester 3 / 5
Elective path/specialty -	Subject offered in: polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time,part-time) part-time	
No. of hours Lecture: 15 Classes: 15 Laboratory: - Project/seminars: -		No. of credits 3
Status of the course in the study program (Basic, major, other) basic		(university-wide, from another field) from field
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 3 100% 3 100%
Responsible for subject / lecturer: Prof. dr hab. inż. Zbigniew Stein email: email: zbigniew.stein@put.poznan.pl tel. 616652589 Elektryczny ul. Piotrowo 3A, 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge of the generation, transmission and distribution of electricity in particular.
2	Skills	Organizing allocation processes and energy trading especially electricity.
3	Social competencies	Ability to industrious activities in a way.
Assumptions and objectives of the course: Knowledge of the principles of organization of the activities of energy companies in the market, especially the electricity market.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. organize and participate in the trade in energy (electricity) - [K_W22+, K_W23+++, K_W27+++]		
2. ably affect on price formation in the market enrgii including renewable energy - [K_W23++]		
Skills:		
1. use knowledge of environmental investigations to determine the production limit pollution - [K_U01+, K_U03+]		
2. organize and interpret measurements of environmental pollution - [K_U20++]		
Social competencies:		
1. is sensitive to measures to protect the environment - [K_K02+, K_K05++]		
Assessment methods of study outcomes		

<p>Lecture:</p> <ul style="list-style-type: none"> - Continuous evaluation in the classroom (favoring activity and perception), - Passing the test. <p>Classes:</p> <ul style="list-style-type: none"> - Remarks on the improvement of of teaching materials, - tests on exercises, - Homework. 		
Course description		
<p>Generation of electricity in power plants. Energy raw materials. The energy value of various types of raw materials. Protection of the environment in the process of generating electricity. Waste of energy commodities. Landfilling. Waste management capabilities. Measurements of environmental pollution. Energy Law. Laws and regulations on environmental protection.</p>		
<p>Basic bibliography:</p> <ol style="list-style-type: none"> 1. Ustawy, rozporządzenia i normy. 2. Mielczarski W.: "Rynek energii elektrycznej. Wybrane aspekty techniczne i ekonomiczne", Wydawnictwo Politechniki Łódzkiej, Łódź 2012. 		
<p>Additional bibliography:</p> <ol style="list-style-type: none"> 1. Szczygieł L.: "Model rynku energii elektrycznej", Wydawnictwo URE, Warszawa 2012. 		
Result of average student's workload		
Activity	Time (working hours)	
1. participation in class lectures	14	
2. participate in the consultations on of the lecture	4	
3. prepare for the completion of the lecture	10	
4. participation in the completion of of the lecture	1	
5. participation in class exercises	15	
6. part in the consultation exercises	5	
7. preparation for exercises	15	
8. homework preparation	10	
Student's workload		
Source of workload	hours	ECTS
Total workload	74	3
Contact hours	39	1
Practical activities	0	0