

FACULTY OF ELECTRICAL  
ENGINEERING**SUBJECT CARD**

Name in Polish: **Rozbudowa systemu elektroenergetycznego w aspekcie ochrony środowiska**  
 Name in English: **Environmental aspects of the development of the electric power system**  
 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: **optional**  
 Subject code: **ELR052413**  
 Group of courses: **NO**

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU):	30				
Number of hours of total student workload (CNPS):	60				
Form of crediting:	crediting with grade				
For group of courses mark (X) final course:					
Number of ECTS points:	2				
including number of ECTS points for practical (P) classes :					
including number of ECTS points for direct teacher-student contact (BK) classes:	1.40				

**PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES**

1. Student knows the rules of functioning of the electric power system and of the electric power stations, he knows the technologies of producing and delivering of the electric power.
2. Student has basic knowledge needed to understanding the legal conditions of the engineering activity.
3. Student understands the legal aspects and consequences of the engineering activity.
4. Student is able to think and act in a creative way.

**SUBJECT OBJECTIVES**

- C1. Acquaintance students with the legal regulations and proceedings of the localization of electric power investments.  
 C2. Acquaintance students with the physical and chemical agents connected with building and exploitation of the power energy objects.

**SUBJECT LEARNING OUTCOMES***relating to knowledge:*

- PEU\_W01 Student knows the proceedings of the localization of electric power investments.  
 PEU\_W02 Student knows the legal regulations of the environment protection and of the town planning and development.  
 PEU\_W03 Student has knowledge of the environment protection against the impact of the physical and chemical agents connected with the building and exploitation of the electric energy objects.

*relating to skills:**relating to social competences:*

- PEU\_K01 Student is able to think in creative and initiative way. Student can properly define the priorities useful by the realization of the defined task and has awareness of priorities and understands the beyond – technical aspects and consequences of the engineering activity including the impact of this activities on the environment and responsibility for the taken decisions.

PROGRAMME CONTENT		
Form of classes - lecture		Number of hours:
Lec 1	The basic directions of the national electric power systems extension.	2
Lec 2	The proceedings of the localization of electric power investments – the legal and formal conditions.	2
Lec 3	The localization of electric power investments in the government programmes on national, regional and communal level.	2
Lec 4	Significance of the planning documents on the communal level in the proceeding of localization of the electric power lines investments.	2
Lec 5	Application of the Environment protection legal regulations and implements in regulations of the investment activity in the electric power engineering branch.	2
Lec 6	Protection of the environment against the impact of the physical and chemical agents connected with the building of the electric power objects	2
Lec 7	Protection of the environment against the impact of the physical and chemical agents connected with the exploitation of the electric power objects.	2
Lec 8	Estimation of the impact on environment of the planned electric power investments (overhead lines)	2
Lec 9	Estimation of the impact on environment of the planned electric power investments (electrical substations)	2
Lec 10	Role of the social consultations by the proceeding of the impact on environment of the planned electric power investments - Part 1	2
Lec 11	Role of the social consultations by the proceeding of the impact on environment of the planned electric power investments - Part 2.	2
Lec 12	Norms, legal regulations and recommendations of the environment protection against the impact of noise and electromagnetic fields.	2
Lec 13	Measures and methods of the environment protection against the impact of the physical and chemical agents produced by building and exploitation of the electric energy objects.	2
Lec 14	Testing and measuring of the physical agents produced by the exploitation of the electric energy objects.	2
Lec 15	Crediting with grade	2
Total hours:		<b>30</b>

TEACHING TOOLS USED
N1. Multimedia presentation. N2. Lecture information.

EVALUATION OF SUBJECT LEARNING OUTCOMES ACHIEVEMENT		
Evaluation <i>F - forming (during semester) P - concluding (at semester end)</i>	Educational effect number	Way of evaluating educational effect achievement
F1(w)	PEU_W01 PEU_W02 PEU_W03 PEU_K01	Crediting with grade
P(w)	P = F1	

PRIMARY AND SECONDARY LITERATURE
<b>PRIMARY LITERATURE:</b> PSE S.A.: Linie i stacje elektroenergetyczne w środowisku człowieka. Informator – wyd. 4, Warszawa 2008. Ustawa z dnia 27 kwietnia 2001 r. Prawo ochrony środowiska. Tekst jednolity: Dz. U. z 2006 r. Nr 129, poz. 902 ze zmianami Ustawa z dnia 27 marca 2003 r. o planowaniu i zagospodarowaniu przestrzennym. Dz. U. Nr 80, poz. 717 ze zmianami <b>SECONDARY LITERATURE:</b> Aniołczyk H.: Pola elektromagnetyczne źródła, oddziaływania, ochrona. Instytut Medycyny Pracy, Łódź 2000

SUBJECT SUPERVISOR
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