

FACULTY OF ELECTRICAL
ENGINEERING**SUBJECT CARD**

Name in Polish: **Zarządzanie w energetyce**
 Name in English: **Management in the power industry**
 Main field of study (if applicable): **Electrical Engineering**
 Specialization (if applicable): **Industrial Electrical Engineering**
 Level and form of studies: **2nd level, part-time**
 Kind of subject: **optional / university-wide**
 Subject code: **ZMR052579**
 Group of courses: **NO**

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU):	11				
Number of hours of total student workload (CNPS):	50				
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 has a basic knowledge of sources of energy, energy conversion.
2. Knows the principles a power system operation and control, is familiar with electricity generation and transmission techniques.
3. Has sufficient range of language means at his/her disposal to flawlessly speak out (orally and written), formulate and justify opinions, explain his/her position, show advantages and disadvantages of different solutions, participate in discussion and present general, scientific and technical subject matter.
4. Understands a need and knows possibilities of continuous education, increasing of professional, personal and social competences.
5. Has awareness of responsibility for own work.

SUBJECT OBJECTIVES

- C1. Possession a knowledge of function of energy sector including renewable energy sources.
 C2. Getting to know market and regulatory mechanisms in energy sector.
 C3. Possession a knowledge of goals of national and European Union energy policy.
 C4. Acquisition of abilities to interpret market and regulatory mechanisms in energy sector including power sector.

SUBJECT LEARNING OUTCOMES*relating to knowledge:*

- PEU_W01 Knows the functioning of the energy supply sector including renewable energy sources.
 PEU_W02 Knows market and regulatory mechanisms in energy sector including power sector.
 PEU_W03 Knows the priorities of the national and the EU energy policy.

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

- PEU_K01 He can think and act in creative and enterprising way. He/she is able to rank appropriately the priorities needed for realizing the respective task.

PROGRAMME CONTENT		
Form of classes - lecture		Number of hours:
Lec 1	Presentation of the course, requirements and a method of assessment, description of key definitions - energy system, power system etc.	1
Lec 2	Management - definition, environment of the energy sector and energy company.	1
Lec 3	Deregulation and restructuring of the energy sector, forms of ownership. The development of market mechanisms in the energy trading. Legal regulations relating to energy sector and the functioning of the energy companies.	2
Lec 4	Polish and European Union energy policy, the roadmap, unconventional energy, prosumer.	2
Lec 5	Polish energy mix and in the world, energy security.	2
Lec 6	Sustainable development, sustainable energy. Energy efficiency, energy management (DSM, SSM, energy storage, ...)	2
Lec 7	Test	1
Total hours:		11

TEACHING TOOLS USED
N1. The lecture, multimedial presentation.

EVALUATION OF SUBJECT LEARNING OUTCOMES ACHIEVEMENT		
Evaluation <i>F - forming (during semester)</i> <i>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	Test
P(w)	P=F1	

PRIMARY AND SECONDARY LITERATURE
PRIMARY LITERATURE: [1] Chochowski A, Krawiec Fr., Zarządzanie w energetyce. Difin, Warszawa 2008. [2] Drucker P., Zarządzanie w XXI wieku. Wydawnictwo Muza, Warszawa 2002. [3] Griffin R.W., Podstawy zarządzania organizacjami, PWN, Warszawa 2000. [4] Malko J., Wilczyński A., Rynki energii – działania marketingowe. Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2006. [5] Peirce W.S., Economics of the Energy Industries. PRAEGER, Westport, Connecticut, London 1996. SECONDARY LITERATURE: [1] Kowalska A., Wilczyński A., Źródła rozproszone w systemie elektroenergetycznym. Wydawnictwo Kaprint, Lublin, 2007. [2] Czasopisma: Rynek Energii, IEEE Power & Energy, Power Engineering, Renewable Energy World. [3] Krawiec F., Krawiec S., Zarządzanie marketingiem w firmie energetycznej. Difin, Warszawa 2001.

SUBJECT SUPERVISOR
Artur Wilczyński, artur.wilczynski@pwr.edu.pl