

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject (-)		Code 1010314391010316983
Field of study Power Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 5 / 9
Elective path/specialty Electrical Power Engineering	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: 18 Classes: - Laboratory: 9 Project/seminars: 9		No. of credits 4
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences		ECTS distribution (number and %) 4 100%
Responsible for subject / lecturer: dr hab. inż. Kazimierz Musierowicz, prof. nadzw. email: kazimierz.musierowicz@put.poznan.pl tel. 61 665 20 40 Wydział Elektryczny ul. Piotrowo 3A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge about physics, electrical engineering and work of electric power systems
2	Skills	Ability to understand and interpret gained knowledge Ability to effective self-studying in the domain connected with chosen course of studying
3	Social competencies	Has a consciousness of necessity to widen competences and willingness to work in a team
Assumptions and objectives of the course: -To acquaint with methods of conversion of energy and particularly electric energy on the other forms of usable and nonusable energy. Conversion of electric energy into light, heat and chemical energy.Wastes of energy		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Has well ordered and theoretically based knowledge in the scope of basic technology of conversion of primary energy into work, heat and electricity, knows structure and work principles of electric engines - [K_W06+++]		
2. Knows and understands the influence of processes of energy conversion on environment. - [K_W08+]		
Skills:		
1. Applies rules of work safety, is able to evaluate influence of power engineering on environment - [K_U17++]		
2. Is able to evaluate power situation and know principles of reasonable management - [K_U20+]		
Social competencies:		
1. Is aware of validity and understand extratechnical aspects and results of activity of power engineer and particularly the influence of this activity on environment and connected with it responsibility for taken decision - [K_K02++]		
Assessment methods of study outcomes		

<p>-Lecture evaluation of the knowledge on written exam (problem character) permanent evaluation on every class rewarding for activity and quality of perception</p> <p>-Laboratory pre-classes verifying tests rewarding the knowledge necessary for realization of problems connected with laboratory tasks rewarding increase of competences in using acquainted investigation methods</p> <p>-Project evaluation activity and ability in task realization evaluation of performed project</p>		
Course description		
<p>-Conversion of electric energy in electric power system, wastes of energy and efficiency of energy converters, balance of energy. Conversion of energy in useful energy, in light, heat and in chemical energy</p>		
Basic bibliography:		
<p>1. Masny J., Teresiak Z.: Przemiany energii elektrycznej. WNT, Warszawa 1985 2. Adamska J., Handke A., Musierowicz K.,Przemiany energii elektrycznej. Przykłady obliczeniowe. Wyd.PP, 1994.</p>		
Additional bibliography:		
<p>1. Praca zbiorowa: Poradnik inżyniera elektryka. Tom 1. WNT Warszawa 2009.</p>		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in lectures	18	
2. Participation in tutorials related to lectures	8	
3. Participation in laboratory exercises	9	
4. Elaboration of results of exercises and preparation of reports	16	
5. Participation to exam	3	
6. Participation in design classes	9	
7. Realization of project	6	
Student's workload		
Source of workload	hours	ECTS
Total workload	69	4
Contact hours	47	2
Practical activities	31	2