

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Seminar		Code 1010322421010324073
Field of study Power Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 2
Elective path/specialty Ecological Source of Electrical Energy	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: - Classes: - Laboratory: - Project/seminars: 15		No. of credits 5
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 Technical sciences		ECTS distribution (number and %) 5 100% 5 100%
Responsible for subject / lecturer: dr hab. inż. Andrzej Tomczewski email: Andrzej.Tomczewski@put.poznan.pl tel. 61 665 2788 Faculty of Electrical Engineering ul. Piotrowo 3A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic information of subjects taught for first degree of full-time studies, majoring in power engineering and specialty of ecological source of electrical energy.
2	Skills	Measurements and calculations of basic electrical and non-electrical quantities, writing simple computer programs, designing and construction of simple circuits or electrical installations and effective self-study in chosen specialty and academic field.
3	Social competencies	Verbal communication and team work, awareness of the need to expand their knowledge and skills.
Assumptions and objectives of the course: Knowledge about proposed issues in Masters Thesis. Preliminary selection of the thesis subject. Understanding rules of the thesis editing and carry out research. Preparatory recognition of literature and possibility of carrying out the research by simulations and experimentally.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. He has well organized and theoretically supported knowledge in the area of information management, structure of operational control, telemechanics and data acquisition. - [K_W17+]		
2. He has knowledge in the field of power generation in power system, including dissipated generation. - [K_W18+]		
Skills:		
1. He is able obtain information in range of Energetics from bibliography, bases of knowledge and the other well-chosen sources; also in English. He can integrate and interpret possessed information and critically evaluate them. Also he make conclusions, create and comprehensively justify opinion. - [K_U01+]		
2. He is able to identify directions of further learning and pursue the process of self-education. - [K_U011+]		
3. He is able to prepare detailed documentation of results of realized experiment, project or science exercise. He can prepare a study that discusses these results. - [K_U015+]		
Social competencies:		
1. He is able to think and act in creative and enterprising way, he understands the need of formulating and transfer the knowledge and opinions, about achievements of today's Energetics and industry branches related to it, to the Society. - [K_K01+]		
Assessment methods of study outcomes		

<ul style="list-style-type: none"> - assess the knowledge and skills needed to carry out the Master thesis topic, - an assessment based on the presentation of the results of realized works, - evaluate the effectiveness of the application of knowledge in problem solving, - continuous evaluation for each class: student activities, increase their knowledge and skills. 		
Course description		
<p>Presentation of proposed Master Thesis subjects. Rules of: the thesis realization, individual consultations, literature resources using. Guidelines and recommendations for editing Masters Thesis. Principles of preparation of the presentation of work and preliminary discussion of the way of carrying out tasks. Issue of copyright policy in the thesis.</p> <p>Update 2017: Participation in research - preparation of a review of scientific literature related to the topic of the master's thesis and research in the field of renewable energy sources (scientific journals: Emerald Engineering, IEEE / IEE Electronic Library, ScienceDirect / Elsevier / ICM, Springer / ScienceDirect / ICM - PP library resources).</p> <p>Applied methods of education: The project - multimedia presentation; analysis / discussion of various methods (including nonconventional) solving problem; analysis / discussion of various aspects (including: economic, environmental, legal and social) of solving problems.</p>		
Basic bibliography:		
<ol style="list-style-type: none"> 1. Vademecum autora (in Polish) Wydawnictwo Politechniki Poznańskiej 2. Books and papers 		
Additional bibliography:		
<ol style="list-style-type: none"> 1. Another Diploma Thesis 		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in seminar classes	9	
2. Participation in the consultation	45	
3. Determine the tasks within the scope of Master thesis	10	
4. Prepare a presentation on the progress made in the implementation of Engineer?s thesis	15	
5. Preliminary review of the literature on engineering thesis	15	
6. Execution of preliminary research and analysis	30	
Student's workload		
Source of workload	hours	ECTS
Total workload	124	5
Contact hours	54	3
Practical activities	39	2