

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Diploma seminar		Code 1010314491010320081
Field of study Power Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 5 / 9
Elective path/specialty Ecological Source of Electrical Energy	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: - Classes: - Laboratory: - Project/seminars: 18		No. of credits 12
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 %) 12 100% 12 100%
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: Presentation of the results of research and analysis conducted for thesis, formulating conclusions.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. knowledge in design as well as the ability to conduct research on selected topics related to the engineering thesis - [K_W28+]		
2. is well informed about latest developmental trends regarding selected topics from the field of renewable energy sources - [K_W20+]		
3. knows the basis of the copyright use in terms of preparing the thesis - [K_W26+]		
Skills:		
1. is able to use literature sources and expand his technical knowledge. In addition, he can prepare and present the acquired knowledge in a suitable presentation for his engineering thesis - [K_U01+]		
2. Is able to identify and carry out specialized research related to the topic of thesis - [K_U06+]		
Social competencies:		
1. understand the need for training and constant improving his professional competence - [K_K01+]		
Assessment methods of study outcomes		

<ul style="list-style-type: none"> - assess the knowledge and skills needed to carry out the Engineer?s 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>Choosing a specific topic for a thesis. Describing and setting out the purpose of the research area essential engineering thesis, including its analysis. The presentation of results of research as well as the analysis of selected issues. The formulation of conclusions, the preparation of the list of specialist literature used in the thesis.</p>		
Basic bibliography:		
<ol style="list-style-type: none"> 1. Literatura tematycznie związana z przygotowyaną pracą 2. Notatki z wykładów 3. Komisja Dydaktyczna Samorządu Studentów Politechniki Warszawskiej &#34;Poradnik pisania pracy dyplomowej&#34;; Samorząd Studentów Politechniki Warszawskiej, Warszawa 2009 4. Bibliography of Engineer?s thesis range recommended by the promoter. 		
Additional bibliography:		
<ol style="list-style-type: none"> 1. Gambarelli G., Łucki Z. &#34;Jak przygotować pracę dyplomową: wybór tematu, pisanie, prezentacja, publikowanie&#34;; Wyd. Universitas, Kraków 1998 2. Rawa T. &#34;Metodyka wykonywania inżynierskich i magisterskich prac dyplomowych&#34;; Akademia Rolniczo-Techniczna w Olsztynie, Olsztyn 1999 3. Internet 4. Bibliography of Engineer?s thesis searched by student. 		
Result of average student's workload		
Activity	Time (working hours)	
1. participation in seminar classes	30	
2. participation in the consultation	60	
3. preparation for seminar classes	10	
4. prepare a presentation on the progress made in the implementation of Engineer?s thesis	10	
5. determine the tasks within the scope of Engineer?s thesis	30	
6. perform research for Engineer?s thesis	60	
7. Engineer?s thesis writing	100	
Student's workload		
Source of workload	hours	ECTS
Total workload	300	12
Contact hours	120	4
Practical activities	160	6