

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Construction of electric power equipment		Code 1010311361010316932
Field of study Electrical Engineering	Profile of study (general academic, practical) general academic	Year /Semester 3 / 6
Elective path/specialty High Voltage Engineering	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 30 Classes: - Laboratory: 15 Project/seminars: -		No. of credits 3
Status of the course in the study program (Basic, major, other) other		(university-wide, from another field) university-wide
Education areas and fields of science and art		ECTS distribution (number and %)
Responsible for subject / lecturer: dr hab. inż. Zbigniew Nadolny, prof. nadzw. email: zbigniew.nadolny@put.poznan.pl tel. 61-665-2298 Wydział Elektryczny ul. Piotrowo 3A 60-965 Poznań		Responsible for subject / lecturer: dr hab. inż. Krzysztof Siodła, prof. PP email: krzysztof.siodla@put.poznan.pl tel. +48-61-665-22-72 Faculty of Electrical Engineering ul. Piotrowo 3A 60-965 Poznań
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	He/she has knowledge in frame of electrical engineering material science and knows fundamental principles regarding to theory of electrical circuits. He/she has knowledge in frame of high voltage engineering. He/she has knowledge in frame of overvoltage protection of buildings and electric power lines.
2	Skills	He/she can build simple electrical system. He/she can make measurements of physical properties describing high voltage engineering. He/she can make measurements of high voltage using various methods.
3	Social competencies	He/she can work and cooperate in group.
Assumptions and objectives of the course: To know fundamental principles related to contracture of electric power devices, such as insulators, transformers, capacities, cables, and GIS substations.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. He/she has knowledge in design, build principle of work of electric power devices. - [K_W08+++] 2. He/she has knowledge related to contracture and principles of work of transformers and electrical machines. - [K_W13++] 3. He/she has knowledge related to properties and applications of materials used in electric power devices. - [K_W23++]		
Skills:		
1. He/she can choose elements of electric power devices. - [K_U17++] 2. He/she can build simple electric power devices. - [K_U19++]		
Social competencies:		
1. He/she understands various aspects and effect of activity of electrical engineers, considering the influence on environment, and responsibility of made decisions. - [K_K02++]		
Assessment methods of study outcomes		

<p>Lectures ? Assessment of knowledge and skills proved on tests, Laboratories: ? Tests and preemie of knowledge which is necessary to realize fundamental tasks in some fields of laboratory, ? Continuous assessment on each laboratory ? preemie of knowledge increase, ? Assessment of knowledge and skills connected to realization of laboratory tasks, assessment of report.</p>		
Course description		
<p>Lecture consists of definitions related to design, choice of materials, build of devices such as insulators, power transformers, high voltage cables, capacitors, GIS substations. There are presented general information related to role of the devices. Laboratory consists of tasks related to contracture of mentioned electric power devices.</p>		
<p>Basic bibliography: 1. 1. Insulation systems of electric power devices, praca zbiorowa, Wydawnictwa Naukowo-Techniczne, Warszawa 1978. 2. 2. Knotce S., High voltage substations, Wydawnictwa Naukowo-Techniczne, Warszawa 1976. 3. 3. Jezierski E., Transformers. Theoretical fundamends, Wydawnictwa Naukowo-Techniczne, Warszawa 1965 4. 4. Szczepaniak Cz., AC capacitors, Wydawnictwa Naukowo-Techniczne, Warszawa 1976 5. 5. Rakowska A., DC cable lines, Wydawnictwo Politechniki Poznańskiej, Poznań 2011</p>		
<p>Additional bibliography:</p>		
Result of average student's workload		
Activity	Time (working hours)	
1. Udział w zajęciach wykładowych	30	
2. Udział w zajęciach laboratoryjnych	15	
3. Udział w egzaminie	1	
4. Przygotowanie do egzaminu	20	
5. Konsultacje	5	
6. Przygotowanie do laboratorium	5	
7. Przygotowanie sprawozdań	5	
Student's workload		
Source of workload	hours	ECTS
Total workload	81	3
Contact hours	51	2
Practical activities	25	1