

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject High current processes		Code 1010315341010306105
Field of study Electrical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 2 / 4
Elective path/specialty Distribution Devices and Electrical	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) part-time	
No. of hours Lecture: 9 Classes: - Laboratory: - Project/seminars: -		No. of credits 1
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 %) 1 100%
Responsible for subject / lecturer: dr inż. Bolesław Bródka email: boleslaw.brodka@put.poznan.pl tel. 61 665 2192 Faculty of Electrical Engineering Piotrowo 3a, 60-965 Poznan		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge of the construction and operation of electrical apparatus and installations, and measuring apparatus and its use (K_W11 +).
2	Skills	The ability to obtain information from the literature and critical analysis (K_U01 ++).
3	Social competencies	He understands the need to promote and implement the effects of technical progress (K_K02).
Assumptions and objectives of the course: Reach expanded knowledge about the processes associated with the great currents and their influence on the design of the busbar		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Have an extended knowledge of dynamic and heat phenomena in the high current busbar and contact current; knowledge for construction of high-current circuits and their impact on the environment. - [[K_W05 +]]		
Skills: 1. Can prepare a specification of complex equipment or electrical system; he knows the legal aspects, as well as other non-technical, such as the impact on the environment; able to use the standards for operation of electrical equipment. - [[K_U11 +]]		
Social competencies: 1. Able to think and act in a professional manner and present their own ideas and take discussion of environmental technology. - [[K_K01 +]]		
Assessment methods of study outcomes		
Lecture - assess the knowledge and skills to the test, - continuous assessment for every lesson on the basis of the concepts discussion.		
Course description		

<p>Phenomena field in the busbar determination with particular emphasis on the skin effect and proximity effect. The impact of current paths of the ferromagnetic elements. Distributions of current in the high-current bus, energy flows between the lanes. Phenomena in conductive contact current is still a current of very high intensity. Presentation of design solutions busbar. Introduction to superconductivity</p>		
<p>Basic bibliography:</p> <ol style="list-style-type: none"> 1. Stanisław Kulas - Tory prądowe i układy zestykowe, Wydawnictwo Politechniki Warszawskiej, W-wa 2008 2. Janusz Turowski - Elektrodynamika techniczna, WNT W-wa 1967 3. Tadeusz Cholewicki - Elektrotechnika teoretyczna cz. II ? WNT W-wa 1971 		
<p>Additional bibliography:</p> <ol style="list-style-type: none"> 1. Jacek Sosnowski - Materiały nadprzewodnikowe - modelowanie, własności i zastosowanie, Wydawnictwo Książkowe Instytutu Elektrotechniki 2008 r 2. Sprawocznik po rasczietu i konstruiowaniu kontaktnych czastiej silnotocznych elektriczeskich aparatow, pod red. W.W. Afanasiewa, Energoizdat, Leningrad 1988 r. 		
<p>Result of average student's workload</p>		
<p>Activity</p>	<p>Time (working hours)</p>	
1. Participation in lecture classes	9	
2. Consultation	3	
3. Prepering for classes	12	
<p>Student's workload</p>		
<p>Source of workload</p>	<p>hours</p>	<p>ECTS</p>
Total workload	24	1
Contact hours	12	1
Practical activities	0	0