

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>The electric wiring systems in buildings</b>		Code <b>1010315341010314273</b>
Field of study <b>Electrical Engineering</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>2 / 4</b>
Elective path/specialty <b>Distribution Devices and Electrical</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>Second-cycle studies</b>	Form of study (full-time, part-time) <b>part-time</b>	
No. of hours Lecture: <b>9</b> Classes: <b>-</b> Laboratory: <b>9</b> Project/seminars: <b>9</b>		No. of credits <b>3</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art <b>technical sciences</b> <b>Technical sciences</b>		ECTS distribution (number and %) <b>3 100%</b> <b>3 100%</b>
<b>Responsible for subject / lecturer:</b>  dr inż. Andrzej Książkiewicz email: andrzej.ksiązkiewicz@put.poznan.pl tel. 61 665 2584 Faculty of Electrical Engineering ul. Piotrowo 3A 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	The basic messages with range of building and the working of devices and the electric installations as well as the measuring apparatus and her utilization..
2	<b>Skills</b>	The skill of logging with objective literature the information and different sources as well as critical their analysis.
3	<b>Social competencies</b>	The reason the need of creative working of for propagating and the initiation of effects of technical progress.
<b>Assumptions and objectives of the course:</b> Getting extended knowledge of the building electrical infrastructure's operation, structure and design taking into account the system integration providing proper cooperation of the latter under the normal and disturbed operation conditions.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. Has ordered and theoretically underpinned knowledge of the electric systems and devices design including the environmental impact of the latter. - [K_W05*] 2. Has extended knowledge of the structure and design of the complex microprocessor systems, especially for measuring and control purposes - [K_W08*]		
<b>Skills:</b>		
1. Is able to design electrical elements, devices and systems regarding the preset application and economic criterions, adapting existing elements or developing new design methods or computer-aided design tools, if necessary.. - [K_U12*] 2. Is able to design the electrical circuits and systems for different purposes. - [K_U13*]		
<b>Social competencies:</b>		
1. Can think and act in the creative and enterprising way. - [K_K01*]		
<b>Assessment methods of study outcomes</b>		

<p>Lectures:                  ?Assessment of the knowledge and skills during the problem-type written examination,                  ?Continuous assessment, at each class (bonus for activity and perception quality).</p> <p>Laboratory:                  ?Test and bonus for a knowledge necessary to accomplish the problems posed in the lab task area,                  ?Assessment of the knowledge and skills related to the class task accomplishment, assessment of the lab report.</p> <p>Projects:                  ?Test and bonus for a knowledge necessary to accomplish the design task,                  ?Assessment of the knowledge and skills related to the design task accomplishment.                  Adding extra points for activity in discussions, especially for:                  ?effectiveness of implementation of the knowledge acquired when solving a given problem.                  ?ability to cooperate in the team accomplishing in practice a specific task in lab.                  ?remarks related to the educational materials? enhancement,                  ?care and esthetic form of the elaborated lab reports and designs ? within the individual work.</p>		
<b>Course description</b>		
<p>Technical conditions which are to be met by the electrical systems in buildings. The lightning, over-voltage, electric shock and fire protection systems. Structural cabling. Access control. Computer and communication networks. Cable routing systems. Granted /uninterruptible power supply systems. Development tendencies in electrical installations                  Laboratory and projects subjects are related to those presented during lectures.</p>		
<b>Basic bibliography:</b>		
<ol style="list-style-type: none"> <li>1. Markiewicz H.: Instalacje elektryczne, WNT, Warszawa, 2001.</li> <li>2. Lejdy B., Instalacje elektryczne w obiektach budowlanych, WNT W-wa, wyd. 2, 2005 r</li> <li>3. Markiewicz H. , Bezpieczeństwo w elektroenergetyce, WNT, Warszawa, wyd. 2 2002-11-03</li> <li>4. Rozporządzenie Ministra Gospodarki Przestrzennej i Budownictwa z 14 grudnia 1994 roku w sprawie warunków jakim powinny odpowiadać budynki i ich usytuowanie. Tekst jednolity.</li> <li>5. PN-IEC 60364, Instalacje elektryczne w obiektach budowlanych.</li> </ol>		
<b>Additional bibliography:</b>		
<ol style="list-style-type: none"> <li>1. Praca zbiorowa, Switchgear manual, ABB Schaltanlagen GmbH, Mannheim, Federal Republic of Germany, 11-th editions 2006.</li> <li>2. Periodyki: Elektroinstalator, Elektroinfo,</li> <li>3. Poradnik inżyniera elektryka, WNT.</li> <li>4. Katalogi firmowe.</li> <li>5. Publikacje internetowe.</li> </ol>		
<b>Result of average student's workload</b>		
<b>Activity</b>	<b>Time (working hours)</b>	
1. Lectures	9	
2. Laboratory	9	
3. Projects	9	
4. Part in consultations	18	
5. The preparation to occupations, the study of laboratory documentation	25	
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	70	3
Contact hours	50	2
Practical activities	56	2