

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Electrical installations</b>		Code <b>1010324291010321941</b>
Field of study <b>Electrical Engineering</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>5 / 9</b>
Elective path/specialty <b>Electrical and Computer Systems in</b>	Subject offered in: <b>polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>First-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>-</b> Project/seminars: <b>18</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> Prof. dr hab. inż. Władysław Opydo email: wladyslaw.opydo@put.poznan.pl tel. 616652685 Elektryczny ul. Piotrowo 3A, 60-965 Poznań		<b>Responsible for subject / lecturer:</b> Dr inż. Arkadiusz Dobrzycki email: arkadiusz.dobrzycki@put.poznan.pl tel. 616652685 Elektryczny ul. Piotrowo 3A, 60-965 Poznań
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Basic knowledge of electrical engineering and power engineering.
2	<b>Skills</b>	Using a spreadsheet. Ability to effectively self-education in a field related to the chosen field of study.
3	<b>Social competencies</b>	Is aware of the need to broaden their competence, willingness to work together in a team.
<b>Assumptions and objectives of the course:</b> Knowledge of design, construction and operation of electrical and low-voltage distribution networks. Learning the processes of the design documentation for the installation of electrical equipment.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. has a basic and systematic knowledge of construction, design and operation of electrical systems and networks - [K_W04+, K_W08++]		
2. knows the electrical installations design methodologies used for this purpose software, and versed in modern technology in installations - [K_W18++]		
<b>Skills:</b>		
1. able to compare different variants of power users and consumers due to the given criteria, as well as how to develop the design documentation for electrical installations using specialized software - [K_U07+++, K_U01++, K_U12++]		
<b>Social competencies:</b>		
1. is aware of the responsibility of the engineer-energy, in particular the impact of its activities on the safe operation of electrical installations - [K_K02+]		
<b>Assessment methods of study outcomes</b>		

<p>Lecture:          ? assess the knowledge and skills listed on the written exam,          ? continuous evaluation for each course (rewarding activity and quality perception).</p> <p>Class project:          ? assessment of the final design for the electrical system,          ? assessment review progress made on the project, as well as active participation in the classes.</p> <p>Get extra points for the activity in the classroom, and in particular for:          ? propose to discuss further aspects of the subject,          ? the effectiveness of the application of the knowledge gained during solving the given problem,          ? diligence aesthetic design of the project.</p>		
<b>Course description</b>		
<p>Electrical equipment of low voltage electrical installations, and their characteristics and parameters. Principles of construction, design, operation and testing low-voltage electrical installations providing security protection, shock protection for low-voltage electrical installations Rules rescue of persons affected by electricity.</p>		
<p><b>Basic bibliography:</b></p> <ol style="list-style-type: none"> <li>1. Markiewicz H.: "Instalacje elektryczne", WNT, Warszawa 2000.</li> <li>2. Lejdy B.: "Instalacje elektryczne w obiektach budowlanych", WNT, Warszawa 2003.</li> <li>3. Niestępski S., Parol M., Pasternakiewicz J., Wiśniewski T.: "Instalacje elektryczne. Budowa projektowanie i eksploatacja", Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2011.</li> <li>4. Orlik W.: "Egzamin kwalifikacyjny elektryka w pytaniach i odpowiedziach", KaBe S. C., Krosno 1999.</li> </ol>		
<p><b>Additional bibliography:</b></p> <ol style="list-style-type: none"> <li>1. Normy i rozporządzenia związane z instalacjami elektrycznymi.</li> <li>2. Internet.</li> </ol>		
<b>Result of average student's workload</b>		
<b>Activity</b>	<b>Time (working hours)</b>	
1. participation in lectures	9	
2. participation in project classes	18	
3. participate into consultations concerning the lecture	2	
4. participate into consultations concerning the project classes	4	
5. development of project	30	
6. prepare for the exam	10	
7. completion of projects	2	
8. participation in the exam	2	
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	77	3
Contact hours	37	1
Practical activities	54	2