

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Nuclear power plant in electric power system</b>		Code <b>1010311471010315679</b>
Field of study <b>Power Engineering</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>4 / 7</b>
Elective path/specialty <b>Nuclear Power Engineering</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>full-time</b>	
No. of hours Lecture: <b>30</b> Classes: <b>-</b> Laboratory: <b>-</b> Project/seminars: <b>15</b>		No. of credits <b>4</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		ECTS distribution (number and %)
<b>Responsible for subject / lecturer:</b> prof. dr hab.inż. Aleksandra Rakowska email: aleksandra.rakowska@put.poznan.pl tel. 61 665 2616 Electrical Engineering ul. Piotrowo 3A 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Student has the basic knowledge in the scope of electric power fundamentals
2	<b>Skills</b>	Student has the ability to use his knowledge on electrical power system operation
3	<b>Social competencies</b>	Student is aware of expanding his knowledge, competences and can cooperate in group
<b>Assumptions and objectives of the course:</b> The aim of subject is to learn students with optimal methods of high power from power plants to power system and specific of flexible cooperation of nuclear power plant with electric power system		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b> 1. Student has the basic knowledge of problems of electric power security, especially possible threats, increase of power system security - [K_W07++] 2. Student has basic knowledge in the scope of electrical engineering fundamentals and nuclear power engineering - [K_W11++] 3. Student has basic knowledge in the scope power system operation and taking out power from nuclear plant - [K_W18++]		
<b>Skills:</b> 1. Student is able to formulate and solve problems connected with nuclear power plant operation in power system. - [K_U16++] 2. Student uses principles of safety at work, is able to assess influence of power systems on environment - [K_U17++] 3. Student is able to assess state of power system and knows the principles of rational management - [K_U20++]		
<b>Social competencies:</b> 1. Student knows the needs of further education (second and third level of studies), increase of technical competences, self-development and action in community - [K_K01++]		
<b>Assessment methods of study outcomes</b>		
Lecture - evaluation of knowledge and skills proved with exam Classes - evaluation of knowledge obtained during classes		

<b>Course description</b>		
Localization of nuclear power plant according to local power system ability. Space planning procedures ? specifics for nuclear power plant. Water supply systems. Flexible cooperation of nuclear power plant with power system. The way of taking out high electric power, advantage and disadvantage of particular technology. Environment protection.		
<b>Basic bibliography:</b>		
1. Gładys H., Matla R., Praca elektrowni w systemie elektroenergetycznym, WNT, Warszawa		
2. Kubowski J., Nowoczesne elektrownie jądrowe, WNT, Warszawa, 2010		
<b>Additional bibliography:</b>		
1. <a href="http://www.atom.edu.pl">http://www.atom.edu.pl</a>		
2. <a href="http://www.iaea.org/pris/">http://www.iaea.org/pris/</a> IAEA Power Reactor Information System		
<b>Result of average student's workload</b>		
<b>Activity</b>	<b>Time (working hours)</b>	
1. Participation in lectures	30	
2. Preparation for exam	15	
3. Participation in exam	2	
4. Participation in classes	15	
5. Preparation for classes	15	
6. Preparation for colloquium	15	
7. Consultation	10	
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	102	4
Contact hours	57	2
Practical activities	0	0