



Subject card

Subject name and code	Transitional team work, PG_00057330						
Field of study	Power Engineering, Power Engineering, Power Engineering						
Date of commencement of studies	February 2022	Academic year of realisation of subject				2022/2023	
Education level	second-cycle studies	Subject group				Optional subject group Subject group related to scientific research in the field of study	
Mode of study	Full-time studies	Mode of delivery				at the university	
Year of study	1	Language of instruction				Polish	
Semester of study	2	ECTS credits				2.0	
Learning profile	general academic profile	Assessment form				assessment	
Conducting unit	Department of Electrical Power Engineering -> Faculty of Electrical and Control Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Piotr Szczeciński				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	30.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		2.0		18.0	50
Subject objectives	Proseminar where students prepare transitional papers. It is a self-prepared written study, which is designed to characterize the problem being solved or the issue discussed in as much detail as possible. The general objectives of transitional work are: preparing the student for independent methodical and systematic work and learning necessary to solve selected issues alone, acquiring the ability to formulate scientific content and correct inference, as well as the ability to conduct discussions,						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_K02] is able to work in a group and take on different roles	Project groups distribute tasks to each member of the group, the work is coordinated by people who develop thematic issues that make up the whole work. Development of the schedule. The process of obtaining information, analyzing information, adapting technological solutions.	[SK3] Assessment of ability to organize work [SK1] Assessment of group work skills
	[K7_K03] is able to think and act creatively and entrepreneurially, is aware of the responsibility for his/her own work and takes responsibility for teamwork	Project groups distribute tasks to each member of the group, the work is coordinated by people who develop thematic issues that make up the whole work. Development of the schedule. The process of obtaining information, analyzing information, adapting technological solutions.	[SK3] Assessment of ability to organize work [SK2] Assessment of progress of work
	[K7_K01] is aware of the necessity of self-education and self-improvement within the scope of his/her occupation as a power engineer and possibilities of further education	Student presents the effects of work, discusses existing problems and remains open to suggestions from people in the group, exchanges experiences with other listeners. He shares his own previous experience, observations and gathered knowledge. Encountered design problems are discussed in the general forum. Thematic issues developed by each of the participants are coordinated in relation to the work performed by the team members.	[SK5] Assessment of ability to solve problems that arise in practice [SK1] Assessment of group work skills
	[K7_U04] is able to plan and perform experiments using measurements and computer simulations, together with interpretation of results, is able to present and evaluate the course and results of work in a team realizing an advanced engineering project, is able to use technical documentation and to create it independently	Based on the analysis of literature, technological solutions used and introduced technologies in the issues described, the student performs simplified technical and economic analyses, additionally determining the impact of the technologies used and introduced impacts on technological processes, the power system, including the transmission and distribution network, as well as the internal installation.	[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools
	[K7_U01] is able to acquire information from literature, databases and other sources, has the ability of self-education in order to improve his/her professional competence (also in English), is able to prepare a simple scientific paper and its summary in English, as well as an oral presentation	Student presents the effects of work, discusses existing problems and remains open to suggestions from people in the group, exchanges experiences with other listeners. He shares his own previous experience, observations and gathered knowledge. Encountered design problems are discussed in the general forum. Thematic issues developed by each of the participants are coordinated in relation to the work performed by the team members.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject
Subject contents	Writing a transitional thesis is carried out according to the following scheme: title page with subject, contents, introduction, containing a brief overview of the subject, purpose and scope of the work, substantive content of the work, consistent with its scope and topic, conclusions along with the assessment of the problem being solved, list of source literature used, attachments: tables, drawings, etc. Determining the editorial requirements of the work, requirements for references, etc. There is no fixed size of transition work. It is assumed that both the number of pages and its form should be strictly adapted to the substantive scope of the discussed issue or the problem being solved. Indicative, recommended volume that a transitional job can have is 15 to 20 standard pages		

Prerequisites and co-requisites	<p>Course content: preparing the student for independent methodical and systematic work and learning necessary to solve selected issues alone and in a group, acquiring the ability to formulate scientific content and correct inference, as well as the ability to conduct discussions, gaining experience by the student enabling independent implementation of the later diploma thesis. On the basis of a specific substantive scope discussed in class, divided and consisting of issues to be solved by particular people, or problems solved by particular people, a work consisting of a written text and a presentation presenting the achieved results of the task will be prepared. The definition of the subject results from the interests of students. The division into thematic groups that jointly implement thematic issues and results from the interests of students. The tasks adopted for implementation require an analysis of the current state and the state that can be obtained after the introduction of new technologies allowing for the introduction of changes in the existing technological, functional, ecological and economic processes. The scope of the analyzes is limited to the existing state and to the state with a possible technical and technological change defined as a possibility by students and modified depending on the technologies learned and the possibility of their use. The analyzed changes to the existing solutions result mainly from reducing the impact on the environment, reducing operating costs, and building synergies that allow for better use of existing resources. The introduced change should result from the need defined in the future time horizon or resulting from limiting climate change, including better management of raw materials while maintaining the climate strategies adopted by the EU. Form of classes: Determining the task to be performed in a group and individually by each student. Division and assignment of small tasks dedicated to individual people combined into thematic groups. During the classes, the progress of individual students' work is discussed, problems are identified and solutions are sought for the implementation of thematic tasks by students. Schedule of works to be performed. Analysis of technological solutions in terms of the possibility of their use, which of the technological solutions adequate to achieve the planned thematic objectives is possible to use, e.g. is cheaper or introduces other economic, ecological effects, etc. What additional benefits can be achieved after the use of the analyzed technologies. Energy intensity, energy efficiency also seen in the field of energy management. Determination of an additional problem to be solved not related to thematic activity. Coordination of joint work, combining smaller tasks and the possibility of solving large ones. Determination of additional thematic issues that build the value of the work. Reducing issues and distracting topics that do not add quality to the work. The ability to identify it. Implementation of group work on one document, coordination, information exchange. Presentation of the collected experience and modifications of the original idea. Analysis of new possible research and development directions. The solution of the problem to be solved. Determination of possible ecological and economic benefits. Preparation of presentations and presentation of results. Handing over the work and presentation for evaluation.</p>														
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="459 864 786 898">Subject passing criteria</th> <th data-bbox="802 864 1145 898">Passing threshold</th> <th data-bbox="1153 864 1487 898">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="459 909 786 943">Based on the presentation</td> <td data-bbox="802 909 1145 943">60.0%</td> <td data-bbox="1153 909 1487 943">10.0%</td> </tr> <tr> <td data-bbox="459 954 786 987">Works</td> <td data-bbox="802 954 1145 987">60.0%</td> <td data-bbox="1153 954 1487 987">10.0%</td> </tr> <tr> <td data-bbox="459 999 786 1032">Based on the written study</td> <td data-bbox="802 999 1145 1032">60.0%</td> <td data-bbox="1153 999 1487 1032">80.0%</td> </tr> </tbody> </table>	Subject passing criteria	Passing threshold	Percentage of the final grade	Based on the presentation	60.0%	10.0%	Works	60.0%	10.0%	Based on the written study	60.0%	80.0%		
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Based on the presentation	60.0%	10.0%													
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Based on the written study	60.0%	80.0%													
Recommended reading	Basic literature	The reading list is agreed according to the thematic group, the issues of literature concern: 1. Electric energy storage techniques 2. Generation of thermal energy 3. Generation of electricity 4. Transmission of electricity 5. Energy Law (after amendment) 6. Polish Energy Policy until 2040													
	Supplementary literature	1. Automation systems 2. Control systems in power engineering 3. DSM Mechanisms 4. DSR mechanisms 5. Electricity market 6. Heating techniques													
	eResources addresses	Podstawowe https://www.pse.pl/home - Power System Structure													
Example issues/ example questions/ tasks being completed	Thematic issues depend on the assigned topic pursued by students														
Work placement	Not applicable														