GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Work placement, PG_00055914						
Field of study	Power Engineering, Power Engineering, Power Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject	2024/2025			
Education level	first-cycle studies		Subject group	Optional subject group			
Mode of study	Full-time studies		Mode of delivery	at the university			
Year of study	4		Language of instruction	Polish			
Semester of study	7		ECTS credits	6.0			
Learning profile	general academic profile		Assessment form	assessment			
Conducting unit	Zakład Maszyn Przepływowych -> Institute of Energy -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Marzena Banaszek					
	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	0.0	0.0	0
	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	0		4.0	146.0	150	
Subject objectives	Diploma internships give the opportunity to expand the acquired knowledge with practical skills to apply it in industrial conditions and allow students to test the acquired theoretical knowledge in practical situations. They allow you to learn the rules of operation of various enterprises, the specifics of work in various positions, the requirements of future employers and adapt your knowledge and skills to the technical problems of a given enterprise. Internships develop skills necessary in future professional work.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U04] is able to design a simple device structure and prepare the accompanying technical documentation, conduct a basic technical and economic analysis of energy systems, including technologies using renewable and pro-ecological energy sources as well as conventional and nuclear energy, design energy installations for them and their basic elements (including electric lighting)); select, operate and control the most commonly used electrical devices and drive systems.	The student is able to design the construction of a simple device and prepare the accompanying technical documentation, conduct a basic technical and economic analysis of energy systems, including technologies using renewable and environmentally friendly energy sources as well as conventional and nuclear energy, design energy installations and their basic elements (including lighting) for them electrical); select, operate and control the most commonly used electrical devices and drive systems.	[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools
	[K6_K01] is aware of the need for training and self-improvement in the profession of energy and the possibility of further education; can think and act in a creative and entrepreneurial manner; can define priorities for the implementation of an individual or group task	The student is aware of the need for training and self-improvement in the field of power engineering and the possibility of further education; is able to think and act in a creative and entrepreneurial way; is able to set priorities for the implementation of an individual or group task.	[SK5] Assessment of ability to solve problems that arise in practice
	[K6_U05] is able to formulate and carry out energy balances in devices and energy systems, also perform an energy audit of a simple building object, is able to perform a preliminary profitability analysis of a planned energy investment	The student is able to formulate and carry out energy balances in devices and energy systems, also perform an energy audit of a simple building, is able to perform a preliminary analysis of the profitability of the planned energy investment.	[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools
	[K6_U12] can correctly choose tools (analytical or numerical) to solve engineering problems filtration processes, and data analysis; is able to use photogrammetric and remote sensing tools in engineering tasks in the field of geodetic techniques and metrology	The student is able to choose tools (measurement, analytical or numerical) to solve engineering problems, acquire, filter, process and analyze data; is able to use photogrammetric and remote sensing tools in engineering tasks in the field of geodetic techniques and metrology.	[SU4] Assessment of ability to use methods and tools
	[K6_U14] can use properly selected methods and devices for hydraulics and hydrology, enabling determination of basic parameters characterizing the flow of medium in channels, pipelines and flow objects and can design installations, networks in the field of sanitary engineering	The student is able to use properly selected methods and devices of hydraulics and hydrology, enabling the determination of basic quantities characterizing the fluid flow in channels, transmission pipelines and flow objects, and is able to design networks and installations in the field of sanitary engineering.	[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools

<table>
<tr><td>Subject contents</td><td>Diploma internships must include design, workshop and operational work in the field of energy.

I. General technical issues
1. Getting acquainted with the structure of the company, organization of work and its profile of activity (scope of production and/or services) and (possibly) the law regulating its functioning.
2. Getting to know the technical processes implemented in the company, including: getting to know the issues of automation, process control with the use of modern computer technologies important in the process of supporting production processes, as well as the analysis of measurement results.
3. Getting to know the technological installations in the company, including the problems of control, reliability, diagnostics and environmental protection.

II. Maintenance and workshop works (only under the supervision of authorized persons)
1. Auxiliary work in the operation, inspection, repair, installation and start-up of power equipment.
2. Auxiliary works during periodic inspections and operational measurements of selected installations.
3. Auxiliary works in the maintenance, repair or replacement of power equipment in the following installations: electronic, heating, pneumatic, hydraulic, etc.

III. Design and construction works
1. Reading and understanding the available technical documentation and manuals for subassemblies and devices and/or energy systems.
2. Getting acquainted with the computer systems used in the company, the hardware and software used and their functions.
3. Participation in the design of energy equipment and/or systems, such as: turbines (thermal, hydro and wind), power plants (conventional and unconventional), heat exchangers, boilers, diagnostic systems, control and automation systems.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>1. Preliminary Activities - present company, the objectives and program practices, training, occupational safety and protection of personal collection.
2. Work in the choosen company department.
3. Completion of the practice - the implementation of the report from the practice, the execution of formalities related to the completion and validation practice.</td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Internship report</td><td>100.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>https://wimio.pg.edu.pl/studenci/praktyki-i-staze

https://wimio.pg.edu.pl/studenci/praktyki-i-staze/energetyka</td></tr><tr><td>Supplementary literature</td><td>https://pg.edu.pl/biuro-karier</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>1. Describe the basic structures and organization of work in a company.
2. Discuss exemplary work on the operation, control, repair, installation and start-up of power equipment.
3. Discuss the principles of safe work in the company.
4. Describe the procedures for performing work on the repair and commissioning of power equipment.
5. Explain the principles of making technical documentation and instructions for power equipment.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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