



## Subject card

Subject name and code	Engineering Graphics II, PG_00040167						
Field of study	Mechanical Engineering						
Date of commencement of studies	October 2023	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group			Obligatory subject group in the field of study 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			English		
Semester of study	2	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Jacek Łubiński					
	Teachers	mgr inż. Bartosz Bastian dr hab. inż. Jacek Łubiński					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	15.0	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	5.0		15.0	50	
Subject objectives	The aim of the classes is to learn the principles of technical drawing of machine parts and connections used in machine building. Preparation of working and assembly drawings.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K6_W07	The student is capable of - drawing machine parts with current technical drawing norms, - creating working and assembly drawings, - reading information of machine elements on assembly drawings, - understands spatial construction of mechanical assemblies, - reads diagrams of the technical systems.			[SW1] Assessment of factual knowledge		
	[K6_U03] is able to identify, formulate and develop the documentation of a simple design or technological task, including the description of the results of this task in Polish or in a foreign language and to present the results using computer software or other aiding tools	The student is capable of - drawing machine parts with current technical drawing norms, - creating working and assembly drawings, - reading information of machine elements on assembly drawings, - understands spatial construction of mechanical assemblies, - reads diagrams of the technical systems.			[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment		

Subject contents	<p>Rules of assembly draing.</p> <p>Permanent joints (wealding, soldering)</p> <p>Non permanent joints (threads)</p> <p>Normalized parts on drawing (bearings, gears, clutch, axes)</p> <p>Sealing and flexible parts.</p> <p>Electircal diagrams</p> <p>Pneumatic and hydraulic diagram.</p>											
Prerequisites and co-requisites	<p>Engineering Graphics II</p> <p>Basics of machine building and metrology</p>											
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="459 797 794 831">Subject passing criteria</th> <th data-bbox="802 797 1137 831">Passing threshold</th> <th data-bbox="1145 797 1481 831">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="459 842 794 875">Design classes</td> <td data-bbox="802 842 1137 875">60.0%</td> <td data-bbox="1145 842 1481 875">40.0%</td> </tr> <tr> <td data-bbox="459 887 794 898">Final colloquium</td> <td data-bbox="802 887 1137 898">60.0%</td> <td data-bbox="1145 887 1481 898">60.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Design classes	60.0%	40.0%	Final colloquium	60.0%	60.0%
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Recommended reading	Basic literature	Zapis Konstrukcji Geometria Wykreślna, A. Rigall, J. Sadaj Rysunek Techniczny T. Dobrzański										
	Supplementary literature	Schaum's outline of theory and problems of Descriptive geometry - Minor Clyde Hawk										
	eResources addresses	Adresy na platformie eNauczenie: Engineering Graphics II (M:31997W1) 2023/24 - Moodle ID: 37119 <a href="https://enauczenie.pg.edu.pl/moodle/course/view.php?id=37119">https://enauczenie.pg.edu.pl/moodle/course/view.php?id=37119</a>										
Example issues/ example questions/ tasks being completed	<p>Assembly drawing of welding part</p> <p>Assembly drawing of threaded connection</p> <p>Drawing of drive system</p>											
Work placement	Not applicable											