



## Subject card

Subject name and code	Engineering Graphics I, PG_00055112						
Field of study	Mechanical Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2021/2022		
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	Part-time studies		Mode of delivery		e-learning		
Year of study	1		Language of instruction		Polish		
Semester of study	1		ECTS credits		4.0		
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		prof. dr hab. inż. Michał Wasilczuk				
	Teachers						
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: 30.0						
	Address on the e-learning platform: <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=13808">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=13808</a> Adresy na platformie eNauczanie: Grafika Inżynierska niestacj - Moodle ID: 18791 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18791">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18791</a>						
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		65.0	100
Subject objectives	To acquaint students with the methods of mapping the geometric form of technical objects. To acquaint students with the basics of technical drawing of a machine (views, sections, dimensioning, tolerating dimensions, marking the condition of the surface, presenting threaded connections).						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[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		A student is able to make an executive drawing of an element of a mechanical device.		[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment		
	[K6_W07] knows the principles of engineering drawing, standards and tools used in preparation of technical documentation		A student knows the basics of technical drawing used in mechanical engineering.		[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge		
Subject contents	The main program content of the lectures Projection methods. Monge's orthogonal projection method. Mapping in rectangular projections and in axonometry of a point, a line, a plane, plane figures and solids. Pierce points and sections. Presentation of objects in a engineering drawing - views, sections, section examples, partial sections, etc. General principles of dimensioning. Dimension tolerance. Determination of the surface condition of machine elements. Representation of threaded connections. The main content of the exercises Mapping in orthographic projections and in axonometry of a point in space. Simple in space, projections of flat figures. Straight line piercing points, solid sections by planes. Solids and machine elements in rectangular projections and in axonometry. Machine element cross-sections. Dimensioning of a machine element.						
Prerequisites and co-requisites							

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Exercise tasks	100.0%	40.0%
	Test	50.0%	60.0%
Recommended reading	Basic literature	Dobrzański T.: Rysunek techniczny maszynowy. Warszawa: WN-T.  Rigall A., Sadaj J.: Zapis konstrukcji. Część I. Geometria wykreślna. Gdańsk: Wyd. "JESAD" 1994.	
	Supplementary literature	Burcan J.: Podstawy rysunku technicznego. Warszawa: WN-T 2006.  Gutowski A.: Zadania z rysunku technicznego. Warszawa: Wyd. Szkolne i Pedagogiczne 1992.	
	eResources addresses	Grafika Inżynierska niestacj - Moodle ID: 18791 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18791">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18791</a>	
Example issues/ example questions/ tasks being completed	Mapping in rectangular projections and in axonometry: point, line, plane figures, solids and machine elements. Straight line piercing points, solid sections by planes. Machine element cross-sections. Dimensioning of a machine element.		
Work placement	Not applicable		