



## Subject card

Subject name and code	Engineering Graphics II, PG_00039867						
Field of study	Mechanical Engineering, Mechanical Engineering						
Date of commencement of studies	October 2020		Academic year of realisation of subject		2020/2021		
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		Polish		
Semester of study	2		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Machine Design and Vehicles -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Waldemar Karaszewski				
	Teachers		dr hab. inż. Waldemar Karaszewski  mgr inż. Katarzyna Mazur  dr inż. Katarzyna Zasińska  mgr inż. Zbigniew Gadomski				
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						
	Adresy na platformie eNauczanie: Engineering Graphics II - Moodle ID: 13548 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=13548">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=13548</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		15.0	50
Subject objectives	The aim of the course is to learn the principles of drawing machine parts, connections used in machine construction and preparation of assembly drawings.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_W07] knows the principles of engineering drawing, standards and tools used in preparation of technical documentation	A student draws based machine elements according to machine technical drawing standards. He creates working and assembly drawings of machine elements. He reads information about machine elements based on presented elements and units drawings. He draws and reads structural forms of three-dimensional mechanical elements and mechanical units. He reads diagrams of complex mechanical 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	A student draws based machine elements according to machine technical drawing standards. He creates working and assembly drawings of machine elements. He reads information about machine elements based on presented elements and units drawings. He draws and reads structural forms of three-dimensional mechanical elements and mechanical units. He reads diagrams of complex mechanical systems.	[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment
Subject contents	Principles of assembly drawings. Permanent joints presentation of machine elements (welded, glue, rivet joints). Temporary fastenings presentation of machine elements (screw, shaft-hub joints). Presentation ways of standardized machine elements (bearings, gears, clutches, brakes, shafts and axles). Presentation ways of springs and seals. Basic information about technical drawings in electrotechnics and electronics, electric diagrams. Pneumatics and hydraulics diagrams. Drawings and machine diagrams practical reading. Introduction to computer graphics.		
Prerequisites and co-requisites	Engineering Graphics I  Based knowledge of theory of machines and metrology.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Final exam	60.0%	60.0%
	Design tasks	60.0%	40.0%
Recommended reading	Basic literature	Dobrzański T. : Technical and machine drawing. WNT, Warsaw, 2017.  Rigall A., Sadaj J. : Technical drawing - Descriptive geometry, Gdansk University of Technology, 2003.	
	Supplementary literature	Kurmaz L.W.: Designing nodes and machine parts, publishing house of the Kielce University of Technology, 2007	
	eResources addresses	Engineering Graphics II - Moodle ID: 13548 <a href="https://enauczenie.pg.edu.pl/moodle/course/view.php?id=13548">https://enauczenie.pg.edu.pl/moodle/course/view.php?id=13548</a>	
Example issues/ example questions/ tasks being completed	Preparation of the assembly drawing of the welded joint  Making an assembly drawing of a screw connection  Preparation of the assembly drawing of the drive unit system		
Work placement	Not applicable		