



## Subject card

Subject name and code	Engineering Graphics II, PG_00039936						
Field of study	Management and Production Engineering, Management and Production 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 inż. Katarzyna Zasińska mgr inż. Zbigniew Gadomski dr hab. inż. Waldemar Karaszewski					
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		3.0		17.0	50
Subject objectives	Celem przedmiotu jest poznanie zasad rysowania części maszyn, połączeń stosowanych w budowie maszyn oraz przygotowania rysunków złożeniowych i zestawieniowych.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	K6_W07	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_U01	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
	K6_W03	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
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