



## Subject card

Subject name and code	Engineering Graphics II, PG_00039411						
Field of study	Mechatronics						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2021/2022		
Education level	first-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	4	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				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	15.0	0.0	15
	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	15		5.0		30.0	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_U05		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.		[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject		
	K6_U06		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.		[SU1] Assessment of task fulfilment		
	K6_W04		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	<table border="1" data-bbox="451 461 1495 566"> <thead> <tr> <th data-bbox="451 461 798 495">Subject passing criteria</th> <th data-bbox="805 461 1141 495">Passing threshold</th> <th data-bbox="1149 461 1495 495">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="451 499 798 533">Design tasks</td> <td data-bbox="805 499 1141 533">60.0%</td> <td data-bbox="1149 499 1495 533">40.0%</td> </tr> <tr> <td data-bbox="451 537 798 566">Final exam</td> <td data-bbox="805 537 1141 566">60.0%</td> <td data-bbox="1149 537 1495 566">60.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Design tasks	60.0%	40.0%	Final exam	60.0%	60.0%
Subject passing criteria	Passing threshold	Percentage of the final grade										
Design tasks	60.0%	40.0%										
Final exam	60.0%	60.0%										
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											
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											