GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Engineering Graphics I, PG_00039855		
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	e-learning
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	5.0
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	mgr inż. Katarzyna Mazur dr inż. Katarzyna Zasińska dr inż. Krzysztof Druet dr inż. Sebastian Grelik-Urbanowski 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	30.0	0.0	45
	E-learning hours included: 45.0						
	Adresy na platformie eNauczanie:						

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	45	6.0	74.0	125

Subject objectives	The aim of the course is to shape 3DI imagination, learn the principles of projecting and defining working drawings in accordance with applicable standards and principles of Technical Drawing.

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	student draws space elements based on orthographic projection. He presents the rules of presentation elements in engineering drawing. He draws and reads structural forms of three-dimensional mechanical elements. He describes surface attributes of elements. He draws of machine elements dimensions and creates working drawings of machine elements according to machine technical drawing standards.	[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 space elements based on orthographic projection. He presents the rules of presentation elements in engineering drawing. He draws and reads structural forms of three-dimensional mechanical elements. He describes surface attributes of elements. He draws of machine elements dimensions and creates working drawings of machine elements according to machine technical drawing standards.	[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment

Subject contents

A role of graphics in engineering activity. Introduction to an individual graphical description of technical objects. Orthogonal and axonometric projections. Orthogonal projections: points, lines, planes, polyhedrons, solids. True sizes of geometrical elements. Relations of geometrical elements. Intersection of surfaces. Projections of partial solids. Geometrical designing of technical objects by the use of polyhedrons, solids and planes. Views, sections, revolved and removed sections of machine elements. Dimensioning of lengths, diameters, angles. Tolerances of dimensions, fits. Description of surface attributes of machine elements. Location of elements on a drawing. Drawing rules of working and assembly drawings. Standardization in engineering graphics.

Prerequisites and co-requisites

Based knowledge of elementary geometry and stereometry, theory of machines and metrology.

Assessment methods and criteria

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

Make a working drawing of the element shown in the drawing.
Draw in the projections the solid cuts with many planes.
Complete the views of the element shown in the figure.

Work placement

Not applicable