

GDAŃSK UNIVERSITY

Subject card

Technical Physics October 2024							
October 2024		Engineering Drawing, PG_00037299 Technical Physics					
October 2024		Academic year of realisation of subject			2025/2026		
first-cycle studies		Subject group			Optional subject group		
Full-time studies		Mode of delivery			at the university		
2		Language of instruction			Polish		
3		ECTS credits			1.0		
general academic profile		Assessment form		assessment			
Department of Machine Design and Vehicles -> Faculty of Mechanical Engineering and Ship Technology				Technology			
Subject supervisor mgr inż. Marek Łubniewski							
Teachers							
Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM
Number of study hours	0.0	15.0	0.0	0.0		0.0	15
E-learning hours inclu	uded: 0.0						
Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study		SUM
Number of study hours	15 2.0			8.0		25	
Student comprehends the role of of engineering graphics in technology and industry Student understands and can actively use projection drawing at a basic level Student understands the principles of the creation of projected drawings from real life models as well as from imagination Student can draw simple hand sketches of technical objects (e.g. machine components) Student interprets technical documentation created accordingly to technical drawing standards Student knows the fundamental principles for the creation of technical and/or operational documentation for							
	Full-time studies 2 3 general academic pro Department of Machii Subject supervisor Teachers Lesson type Number of study hours E-learning hours inclu Learning activity Number of study hours Student comprehend Student understands from imagination Student can draw sir Student interprets tea	Full-time studies 2 3 general academic profile Department of Machine Design and Subject supervisor Teachers Lesson type Lecture Number of study 0.0 hours 0.0 E-learning hours included: 0.0 Learning activity Participation i classes inclue plan Number of study 15 Student comprehends the role of of Student understands and can active Student understands the principles from imagination Student can draw simple hand sket Student interprets technical docume Student knows the fundamental principation i classes from imagination	Full-time studies Mode of de 2 Language 3 ECTS cred general academic profile Assessment Department of Machine Design and Vehicles -> Fa Subject supervisor mgr inž. Mare Teachers Image: Student study Lesson type Lecture Lesson type Lecture Lesson type Lecture Lesson type Lecture Learning hours included: 0.0 Learning activity Participation in didactic classes included in study plan Number of study hours 15 Student comprehends the role of of engineering gravitation in didaction from imagination Student understands and can actively use projection in didaction from imagination Student can draw simple hand sketches of technical student interprets technical documentation created student interprets technical documentation created student knows the fundamental principles for the creation from imagination	Full-time studies Mode of delivery 2 Language of instructio 3 ECTS credits general academic profile Assessment form Department of Machine Design and Vehicles -> Faculty of Mech- Subject supervisor mgr in2. Marek Łubniewski Teachers Iteason type Lesson type Lecture Tutorial Laboratory Number of study 0.0 hours 15.0 0.0 E-learning nours included: 0.0 Itearning activity Participation in didactic classes included in study plan Participation In didactic classes included in study Number of study hours 15 2.0 Student comprehends the role of of engineering graphics in techr Student understands and can actively use projection drawing at Student understands the principles of the creation of projected d from imagination Student can draw simple hand sketches of technical objects (e.g.g.g.g.g.g.g.g.g.g.g.g.g.g.g.g.g.g.g	Full-time studies Mode of delivery 2 Language of instruction 3 ECTS credits general academic profile Assessment form Department of Machine Design and Vehicles -> Faculty of Mechanical Er Subject supervisor mgr inž. Marek Łubniewski Teachers Itaboratory Lesson type Lecture Number of study 0.0 15.0 0.0 Icarning hours included: 0.0 Learning nours included: 0.0 Learning activity Participation in didactic classes included in study plan Number of study hours 15 Student comprehends the role of of engineering graphics in technology and Student understands and can actively use projection drawing at a basic I student understands the principles of the creation of projected drawings from imagination Student can draw simple hand sketches of technical objects (e.g. maching student interprets technical documentation created accordingly to technical student interprets technical documentation created accordingly to technical and student interprets technical principles for the creation of technical and student interprets technical principles for the creation of technical and student interprets technical documentation created accordingly to technical and student interprets technical principles for the creation of technical and student interprets technical documentation created accordingly to technical and student interprets technical doc	Full-time studies Mode of delivery at the 2 Language of instruction Polish 3 ECTS credits 1.0 general academic profile Assessment form asses Department of Machine Design and Vehicles -> Faculty of Mechanical Engineer Subject supervisor mgr inż. Marek Łubniewski Teachers Image: Subject supervisor mgr inż. Marek Łubniewski Project Number of study 0.0 15.0 0.0 0.0 Learning hours included: 0.0 E-learning hours included: 0.0 Easses included in study plan Participation in didactic classes included in study plan Participation in classes included in study plan Self-s Number of study hours 15 2.0 8.0 Student comprehends the role of of engineering graphics in technology and indu Student understands and can actively use projection drawing at a basic level Student understands the principles of the creation of projected drawings from refrom imagination Student can draw simple hand sketches of technical objects (e.g. machine com Student interprets technical documentation created accordingly to technical dra Student knows the fundamental principles for the creation of technical and/or op	Full-time studies Mode of delivery at the university 2 Language of instruction Polish 3 ECTS credits 1.0 general academic profile Assessment form assessment Department of Machine Design and Vehicles -> Faculty of Mechanical Engineering and Ship Subject supervisor mgr in2. Marek Łubniewski Teachers Itesson type Lecture Tutorial Laboratory Project Seminar Number of study 0.0 15.0 0.0 0.0 0.0 0.0 Learning nours included: 0.0 Learning activity Participation in didactic classes included in study plan Participation in consultation hours Self-study Number of study hours 15 2.0 8.0 Student comprehends the role of of engineering graphics in technology and industry Student understands and can actively use projection drawing at a basic level Student understands the principles of the creation of projected drawings from real life models from imagination Student can draw simple hand sketches of technical objects (e.g. machine components) Student interprets technical documentation created accordingly to technical drawing standard Student knows the fundamental principles for the creation of technical and/or operational docentermina dinderset accordingly to technical and/or oper

Learning outcomes	Course outcome	Subject outcome	Method of verification				
	[K6_U05] designs and builds a simple measuring device	Student can draw simple hand sketches of technical objects (e.g. machine components) Student interprets technical documentation created accordingly to technical drawing standards Student knows the fundamental principles for the creation of technical and/or operational documentation for technical systems.	[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject				
	[K6_U02] analyzes and solves simple scientific and technical problems, based on possessed knowledge, using analytical, numerical, simulation and experimental methods	Student comprehends the role of of engineering graphics in technology and industry Student understands and can actively use projection drawing at a basic level Student understands the principles of the creation of projected drawings from real life models as well as from imagination	[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment				
Subject contents	Introduction to engineering graphics. The importance of graphics to engineering activities. Vision - the fundamental perceptive tool in engineering. Types of engineering graphics (from manual sketches to 3D computer graphics).						
	Manual sketching as a fundamental tool for conveying information about machine components. The usage of manual sketches at different stages of machines" creation and existence (concept, design, completion of documentation, manufacturing, marketing, sale, decommissioning, scrapping).						
	The usage of graphical methods in visualisation of stress and deformation in machine components.						
	Shaping of machine components with the use of graphics aided analyses. Stress optimisation with the use of graphical methods.						
	Representation of bodies (machine components) by projection: perpendicular, axonommetry etc						
	Technical drawing - fundamental tool for engineering information exchange. Types and constituents of a technical drawing used in machine design and other fields of engineering.						
	Presentation of machine elements by projected views, cross sectional views, local sections; Types of drawing lines, meaning and function of line types. Dimensioning of length, diameter, angle and other. Technological aspects of dimensioning. Standardised methods of describing material types, heat treatment, chamical treatment, coatings and other manufacturing details.						
	Design principles and criteria. Why a product exists? Design assumptions, principles and requirements. Concept creation. Design optimisation.						
Prerequisites and co-requisites	Basic level experience in manual pencil drawing.						
	Comprehension of the princiles of the Euclidean geometry						
	Active understanding of the fundamental theorems of geometry (e.g. Pitagorean, Telsian)						
Assessment methods	Subject passing criteria	Passing threshold	Percentage of the final grade				
and criteria	Midterm colloquium	55.0%	25.0%				
	Laboratory excercise reports	100.0%	75.0%				

Recommended reading	Basic literature	Technical Drawing for Mechanical Engineers Handbook Fundamentals of machine design Mechanical Engineering Handbook
	Supplementary literature	Descriptive Geometry
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

Document generated electronically. Does not require a seal or signature.