



## Subject card

Subject name and code	Descriptive Geometry , PG_00044358						
Field of study	Civil 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		
Mode of study	Part-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	1		ECTS credits		4.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Geodesy -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Bożena Kotarska-Lewandowska				
	Teachers		dr inż. Anna Sobieraj-Żłobińska				
			dr inż. Bożena Kotarska-Lewandowska				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	12.0	10.0	0.0	5.0	0.0	27
	E-learning hours included: 0.0						
	Address on the e-learning platform: <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=8732">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=8732</a> 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	27		5.0		68.0	100
Subject objectives	Introduction of main geometrical constructions and projectors of three-dimensional objects into two dimensional drawings (orthogonal projections, axonometric projection and topographical projection). Getting knowledge how to use geometry to solve basic engineering problems. The development of spatial imaginary and abstract thinking skills.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U09] can read architectural, geodetical and construction drawings, is able do prepare engineering drawing using selected CAD software		Can present the construction elements using geometry		[SU1] Assessment of task fulfilment		
	[K6_W02] knows the rules of descriptive geometry and technical drawing, which is needed to read and understand architecture, construction and geodesy plans and making them using CAD tools.		Knows the basis of Orthogonal projections, aksonometry and marking projection		[SW1] Assessment of factual knowledge		

Subject contents	Orthogonal projections. Location of a point, line and plane in space. Relative position of lines and planes. Common elements (edges, the penetration). Penetration of polygons and their visibility. Puncture a simple polygon, intersection plane. The transformation of the position and its applications.  Projection of polyhedrons. Polyhedron's simple puncture, cut plane. Axonometric projection. Basic elements and constructions.  Marking projection, basic elements and constructions. Design of slopes, embankments and excavations for the squares and roads.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	project	60.0%	10.0%
	test	60.0%	50.0%
	exercises	60.0%	40.0%
Recommended reading	Basic literature	<ul style="list-style-type: none"><li>• Bieliński A.: Geometria wykreślna, Oficyna Wydawnicza Politechniki Warszawskiej, 2005 (Descriptive geometry)</li><li>• Grochowski B.: Elementy geometrii wykreślnej, PWN Warszawa, 2002 (Elements of descriptive geometry)</li><li>• Jankowski W.: Geometria Wykreślna, Wydawnictwo Politechniki Poznańskiej, 1999 (Descriptive geometry)</li><li>• Mierzejewski W.: Geometria Wykreślna, Oficyna Wydawnicza Politechniki Warszawskiej, 2006 (Descriptive geometry)</li></ul>	
	Supplementary literature	web pages with some exercises and examples (also animations)  <ul style="list-style-type: none"><li>• <a href="http://matwbn.icm.edu.pl/kstresc.php?tom=16&amp;wyd=10">http://matwbn.icm.edu.pl/kstresc.php?tom=16&amp;wyd=10</a></li><li>• <a href="http://fluid.itcmp.pwr.wroc.pl/~eichler/program.html">http://fluid.itcmp.pwr.wroc.pl/~eichler/program.html</a></li><li>• <a href="http://wms.mat.agh.edu.pl/~samujlo/6.htm">http://wms.mat.agh.edu.pl/~samujlo/6.htm</a></li><li>• <a href="http://members.chello.pl/j.paszkowski/strony/studia/elektryczny/">http://members.chello.pl/j.paszkowski/strony/studia/elektryczny/</a></li><li>• <a href="http://www.studianet.pl/kreska">http://www.studianet.pl/kreska</a></li></ul>	
	eResources addresses	Uzupełniające	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		