



## Subject card

Subject name and code	Descriptive Geometry, PG_00058734						
Field of study	Environmental Engineering						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group			Obligatory subject group 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	1	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Katedra Wytrzymałości Materiałów -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Bożena Kotarska-Lewandowska					
	Teachers	dr inż. Angela Andrzejewska dr inż. Karol Daszkiewicz dr inż. arch. Romanika Okraszewska dr inż. Bożena Kotarska-Lewandowska					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	0.0	15.0	0.0	30
	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	30	5.0		20.0		55
Subject objectives	Preparation for recording engineering structures in a technical drawing, projection principles. Presentation of basic constructions in geometric projections (Monge projection, topographic projection). Getting knowledge how to use geometry to solve basic engineering problems						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W15] knows the rules of descriptive geometry and technical drawing regarding the recording and reading of architectural drawings, construction and surveying drawings, as well as their preparation with the use of CAD	knows the basics of the topographic and Monge projection			[SW1] Assessment of factual knowledge		
	[K6_U07] can read architectural, construction and geodesy drawings, and can use the known computer programs to prepare a drawing part of technical documentation for the sanitary industry	can read construction drawings, can apply the basics of the topographic and Monge projection			[SU1] Assessment of task fulfilment		
Subject contents	Topographic projection. Lines and planes in topographic projection. Spatial relations and common elements. Design of slopes, embankments and excavations for squares and roads.  Monge projection. Location of a point, line and plane in space. Mutual position of lines and planes. Common elements (intersection line). Basic constructions. Transformation and its applications. Projection of polyhedra. Intersection of polyhedrons with a straight line or a plane.						
Prerequisites and co-requisites							

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	ocena kolokwium	60.0%	50.0%
	ocena rozwiązania ćwiczeń	60.0%	50.0%
Recommended reading	Basic literature	<ol style="list-style-type: none"> <li>Otto F., Otto E.: <i>Podręcznik geometrii wykreślnej</i>, PWN Warszawa, 1998 (i inne wydania).</li> <li>Bieliński A.: <i>Geometria wykreślna</i>, Oficyna Wydawnicza Politechniki Warszawskiej, 2005.</li> <li>Grochowski B.: <i>Elementy geometrii wykreślnej</i>, PWN Warszawa, 2002.</li> <li>Jankowski W.: <i>Geometria Wykreślna</i>, Wydawnictwo Politechniki Poznańskiej, 1999.</li> <li>Bieliński A.: <i>Ćwiczenia z geometrii wykreślnej</i>, Oficyna Wydawnicza Politechniki Warszawskiej, 2002.</li> <li>Błach A.: <i>Inżynierska geometria wykreślna. Podstawy i zastosowania</i>, Wydawnictwo Politechniki Śląskiej, Gliwice 2006.</li> </ol>	
	Supplementary literature	<ol style="list-style-type: none"> <li>Kotarska-Lewandowska B.: <i>Geometria wykreślna. Zadania testowe</i>, skrypt elektroniczny dostępny na stronie <a href="http://www.pbc.gda.pl/">http://www.pbc.gda.pl/</a>, Gdańsk, 2011.</li> <li>Wróblewska D.: <i>Rzut Cechowany. Odwzorowania Inżynierskie</i>, skrypt elektroniczny dostępny na stronie <a href="http://www.pbc.gda.pl/">http://www.pbc.gda.pl/</a>, Gdańsk, 2014.</li> </ol>	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Slopes of excavations and embankments along the road.		
Work placement	Not applicable		