



## Subject card

Subject name and code	Applied mathematics, PG_00049164						
Field of study	Spatial Development						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2021/2022		
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	2	Language of instruction			Polish		
Semester of study	3	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Visual Techniques -> Faculty of Architecture						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. arch. Anna Wanclaw				
	Teachers		dr inż. arch. Anna Wanclaw				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	0.0	0.0	45
	E-learning hours included: 0.0						
	Adresy na platformie eNauczenie: Matematyka Stosowana. Grafika inżynierska - zastosowania, 2021/22 - Moodle ID: 17178 <a href="https://enauczenie.pg.edu.pl/moodle/course/view.php?id=17178">https://enauczenie.pg.edu.pl/moodle/course/view.php?id=17178</a>						
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		49.0		100
Subject objectives	Increasing knowledge and develop skills for making three-dimensional space and the methods of preparation and reading terrain visualization used in land management.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W03] has elementary knowledge in the field of mathematics and physics relating to issues related to space management, including the basic mathematical methods used in urban design, as well as analytical and design methods using information technology used in planning processes of settlement structures	He knows the graphic methods of space projection and their application in solving engineering problems.			[SW1] Assessment of factual knowledge		
	K6_U04	Can freely determine the surface topography of land, and plan simple engineering tasks.					
	[K6_U01] has the ability to abstractly understand technical problems; applies basic mathematical and simulation methods in urban planning and spatial planning	He can attractively present the effects of his work in the form of perspective sketches and digital visualizations.			[SU5] Assessment of ability to present the results of task [SU1] Assessment of task fulfilment		
Subject contents	The use of horizontal projection in earthworks: topographic surface, design of squares and roads in the area, geometric solutions for road and square drainage. Perspective, basics of freehand structures and digital visualization of the urban landscape. Geometrical illusions in architecture and urban planning						
Prerequisites and co-requisites	completion module SCIENCES, GRAPHIC ART AND PRESENTATION						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Correctness and appeal of design tasks	100.0%			100.0%		

Recommended reading	Basic literature	Iwan Kernicki, Projektowanie geometryczne placów budowlanych i dróg dojazdowych. Wydawnictwo SGGW, Warszawa 2008
	Supplementary literature	Z. Andrzejowski, W. Pawłowski, S. Przewłocki, <i>Geometria wykreślna w praktyce inżynierskiej</i> , Wyd PŁ, 2002  J. Waligórski, Zasady i zastosowania rzutu cechowanego, WNT, Warszawa, 1961
	eResources addresses	Matematyka Stosowana. Grafika inżynierska - zastosowania, 2021/22 - Moodle ID: 17178 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17178">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17178</a>
Example issues/ example questions/ tasks being completed	<p>1. The project road drainage.</p> <p>2. Land leveling project - landscaping with different heights (recreational areas, entrance to the underground garage).</p> <p>3. Perspective sketch of small architecture objects.</p>	
Work placement	Not applicable	