



Subject card

Subject name and code	Applied mathematics, PG_00049164						
Field of study	Spatial Development						
Date of commencement of studies	October 2022		Academic year of realisation of subject		2023/2024		
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 mgr inż. arch. Barbara Chomicka				
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						
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	<p>Z. Andrzejowski, W. Pawłowski, S. Przewłocki, <i>Geometria wykreślna w praktyce inżynierskiej</i>, Wyd PŁ, 2002</p> <p>J.Waligórski, <i>Zasady i zastosowania rzutu cechowanego</i>, WNT, Warszawa, 1961</p>
	eResources addresses	<p>Adresy na platformie eNauczanie:</p> <p>Matematyka stosowana. Grafika inżynierska - zastosowania, 2023/24 - Moodle ID: 32437</p> <p>https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32437</p>
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	