



## Subject card

Subject name and code	Mathematics I, PG_00055840							
Field of study	Architecture							
Date of commencement of studies	October 2023	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	1	Language of instruction			Polish			
Semester of study	1	ECTS credits			4.0			
Learning profile	general academic profile	Assessment form			assessment			
Conducting unit	Mathematics Center -> Vice-Rector for Education							
Name and surname of lecturer (lecturers)	Subject supervisor	mgr Katarzyna Kujawska						
	Teachers	mgr Katarzyna Kujawska mgr Dorota Garbowska						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM	
	Number of study hours	15.0	30.0	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	8.0		47.0		100	
Subject objectives	Students obtain competence in the range of using methods of mathematical analysis and linear algebra and knowledge how to solve simple problems that can be found in the field of engineering.							
Learning outcomes	Course outcome	Subject outcome			Method of verification			
	[K6_U04] is able to use analytical methods to formulate and solve project tasks	Student recognizes the importance of skillful use of basic mathematical apparatus in terms of study in the future.			[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools			
	[K6_W01] knows and understands construction problems, building and engineering issues related to building design; principles, solutions, constructions and building materials used in simple engineering tasks in the field of architectural and urban design	Student examines the position of lines and planes in space Student solves equations and inequalities with elementary functions Student evaluates the limits of sequences Student gives a graphic interpretation of discontinuity points			[SW3] Assessment of knowledge contained in written work and projects			
Subject contents	1. Elementary functions 2. Sequences 3. Limit of the function 4. Continuity of a function 5. Elements of linear algebra 6. Analytic geometry in three- dimensional space 7. Conic curves							
Prerequisites and co-requisites	No requirements.							
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade			
	activity	0.0%			10.0%			
	midterm colloquium	50.0%			90.0%			
Recommended reading	Basic literature	<ul style="list-style-type: none"><li>"Matematyka - podstawy z elementami matematyki wyższej" WPG</li><li>K.T.Jankowscy "Zbiór zadań z matematyki" WPG</li><li>KT. Jankowscy Zadania z matematyki wyższej WPG</li><li>M.Gewert, Z.Skoczył "Analiza matematyczna I - Przykłady i zadania"</li></ul>						

	Supplementary literature	<ul style="list-style-type: none"> <li>• W.Krysicki, L.Włodarski "Analiza matematyczna w zdaniach I"</li> <li>• W.Stankiewicz "Zadania z matematyki dla wyższych uczelni technicznych I"</li> </ul>
	eResources addresses	Adresy na platformie eNauczanie: WA-A-Matematyka I-2023/24 (K.Kujawska) - Moodle ID: 31421 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=31421">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=31421</a>
Example issues/ example questions/ tasks being completed		<ol style="list-style-type: none"> <li>1. Find the domain and range of the function <math>f(x)=\dots</math> . Determine the inverse function of <math>f</math></li> <li>2. Evaluate the limit of the given sequence <math>(a_n)</math></li> <li>3. Evaluate the limit of the given function <math>f(x)=</math> at the point <math>x_0=</math></li> <li>4. Analyse the continuity of the following function <math>f(x)=</math></li> <li>5. Show that the points <math>A, B, C, D</math> do not lie on the plane.</li> <li>6. Discuss the relative position of the given lines <math>l_1</math> and <math>l_2</math>.</li> </ol>
Work placement		Not applicable