



Subject card

Subject name and code	Mathematical analysis II, PG_00037260						
Field of study	Technical Physics						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2021/2022		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study Subject group related to scientific research 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	2		ECTS credits		6.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department of Probability Theory and Biomathematics -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Joanna Cyman				
	Teachers		dr Joanna Cyman dr inż. Paweł Wojda				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	0.0	0.0	0.0	60
	E-learning hours included: 0.0						
	Adresy na platformie eNauczanie: Analiza matematyczna II 2022 - Moodle ID: 18610 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18610						
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	60		10.0		80.0	150
Subject objectives	To equip students with the knowledge that supports technical items						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K6_W03		Student understands mathematical theorems and it uses with they of solving exercises. Can calculate integrals and knows applications of integrals. Study infinite series of numbers and series of functions. Student can make differential and integral calculus of multivariate function like partial derivatives, multiple integration.		[SW1] Assessment of factual knowledge		
	K6_U01		Student understands the importance of studying by himself. Student is practising by himself.		[SU2] Assessment of ability to analyse information		
Subject contents	Integral calculus of the function of one variable. An infnite series of numbers and functions (Taylor series, Fourier series). Differential and integral calculus of multivariate function - Partial derivatives, Multiple integration.						
Prerequisites and co-requisites	Student knows basics of differential calculus of the function of one variable.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Colloquium 1		50.0%		27.0%		
	Colloquium 2		50.0%		27.0%		
	Exam		50.0%		40.0%		
	Activity		50.0%		6.0%		

Recommended reading	Basic literature	<p>1. M. Gewert, Z. Skoczylas, Analiza matematyczna 1 i 2. Definicje, twierdzenia, wzory. Wrocław, Oficyna Wydawnicza GiS 2014.</p> <p>2. M. Gewert, Z. Skoczylas, Analiza matematyczna 1 i 2. Przykłady i zadania. Wrocław, Oficyna Wydawnicza GiS 2014.</p> <p>3. W. Kryszicki, L. Włodarski, Analiza matematyczna w zadaniach 1 i 2. Warszawa, PWN 2015.</p> <p>4. J. Dymkowska, D. Beger, Rachunek całkowy w zadaniach, Gdańsk, Wydawnictwo Politechniki Gdańskiej 2017.</p>
	Supplementary literature	<p>1. J. Topp, Matematyka. Funkcje jednej zmiennej. Gdańsk, Wydawnictwo UG 2016.</p> <p>2. G. M. Fichtenholz, Rachunek różniczkowy i całkowy. T 1 i 2. Warszawa, PWN 1994.</p>
	eResources addresses	<p>Analiza matematyczna II 2022 - Moodle ID: 18610 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18610</p>
Example issues/ example questions/ tasks being completed	<p>Calculate the double integral</p> <p>Definition of Partial derivatives</p>	
Work placement	Not applicable	