

。 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Mathematical Analysis, PG_00021503							
Field of study	Mathematics							
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		
						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	2		Language of instruction			Polish		
Semester of study	3		ECTS credits			10.0		
Learning profile	general academic profile		Assessme	ent form		exam		
Conducting unit	Department of Nonlinear Analysis and Statistics -> Faculty of Applied Physics and Mathematics							
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Marcin Styborski					
	Teachers		dr inż. Magdalena Chmara					
			mgr inż. Urszula Goławska					
			dr inż. Marcin Styborski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project Seminar		Seminar	SUM
	Number of study hours	60.0	60.0	0.0	0.0		0.0	120
	E-learning hours included: 0.0							
Learning activity and number of study hours	Learning activity Participation ir classes includ plan				Self-study SUM			
	Number of study hours	120		5.0		125.0		250
Subject objectives	The aim of the course is to familiarize students with the basics (definitions, theorems, methods of calculation and problem-solving methods) of integral calculus of functions of several variables and its applications in field theory, physical and technical issues.							

K6_W07 The student can justify the juscobian of functions of many variables and what not functions of many variables and projects [SW1] Assessment of factual involvedge contained in writen work and projects K6_W04 After the outrue, the student will be dimensions, i.e. Geen, Gauss and Stokes. The student will be dimensions, i.e. Geen, Gauss and Stokes. The student will be diverse that guest move the dimensions, i.e. Geen, Gauss and Stokes. The student will be diverse the dimensions, i.e. Geen, Gauss and Stokes. [SU1] Assessment of factual move didge K6_U02 The student is able to carry variate the incention of ability to analyse information. [SU2] Assessment of ability to analyse information. K6_U04 The student is able to carry variate the outrue in the student in whice the dimension of a student is able to any variate the incents of a student is able to any variate the incents of a student is able to any variate the incents of a student is able to any variate the incents of a student is able to any variate the incent of a student is able to any variate the incents of a student is able to any variate the incents of a student is able to any variate the incent of a student is able to any variate the incents of a student is able to any variate the incents. It also defines the integral is a variate incents and stokes theorem and is appropriately. Now she concept is an any variate is and stokes theorem and is appropriately for the incents of the integral is and proprime incents. It also defines the integral is and proprime is appropriately assessment of a bility to use knowledge gained from the usextoware and integral an entintegral in n-dimensional sp	Learning outcomes	Course outcome	Subject outcome	Method of verification			
be familiar with the classical theorem site generalize the Newton-Lebraz formula to higher dimensions. I. Corent, Gauss addito to apply these theorems. Involvedge K6_U02 The student is able to carry out justification of the theorems of public, Green and Stokes. [SU1] Assessment of task transformation is able to carry out justification of the theorems of public, Green and Stokes. K6_U04 The student is able to carry out justification of the theorems of public, Green and Stokes. [SU2] Assessment of ability to and examples of carres and surfaces. The student is able to calculate their lengths and areas appropriately. Knows the collinity to appropriately. Knows the collinity to aspect of the stable to define the integral of such a function into and integration. K6_U06 The student is able to convert the use of the mann. Normal regimes and their propriately selected examples. It also defines the area strates in the apprications. Normal regimes and their propriately of led theory, a divergence and rotation of a vectified. Applications of curvinear, multiparts. Normal regimes and their proprises. Change of variables in multipart ledis. Applications of curvinear, multiparts of led theory, a divergence and rotation of a vectified. Applications of curvinear, multiparts of ledit heory, a divergence and rotation of a vectified. Applicatison of curvinear, multipart and criteria		K6_W07	The student can justify the importance of the Jacobian of functions of many variables and what role it plays in the change of variables theorem in multiple	[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and			
formal reasoning leading to the justification of the theorems of Fubini. Green and Stokes. [Su2] Assessment of ability to analyse information K6_U04 The student knows the definition and examples of curves and surfaces. The student is able to calculate heir lengths and areas appropriately. Knows the concept of multidimensional volume. [Su2] Assessment of ability to inalyse information K6_U06 The student is able to concept of multidimensional volume. [Su3] Assessment of ability to use methods and tools K6_U06 The student is able to concept of multidimensional volume. [Su3] Assessment of ability to use knowledge gained from the subject Subject contents Remann integral in n-dimensional space. Fubini theorem and iterated integrals. Sable to use Green, Gauss and Stokes theorems. [Su3] Assessment of ability to use knowledge gained from the subject Subject contents Remann integral in n-dimensional space. Fubini theorem and iterated integrals. Sable to use Green, Gauss and Stokes theorems. [Su3] Assessment of ability to use knowledge gained from the subject. Prerequisites and co-requisites Remann integral in n-dimensional space. Fubini theorem and iterated integrals. Sable to use of the drever, a divergence and rotation of a vector field. Gradent fields. Applications of curvilinear. Implications of field theory: a divergence and rotation of a vector field. Gradent fields. Applications of curvilinear. Integrals. Green theorem and its applications. Surface integrals. Gause 1000% Prerequisites and coritenia Subject passing critenia		K6_W04	be familiar with the classical theorems that generalize the Newton-Leibniz formula to higher dimensions, i.e. Green, Gauss and Stokes. The student will be				
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example questions/ tasks being completed			Analiza matematyczna III - 2023/2024 - Moodle ID: 30886				
Apply the theorem of Green/ Gauss/ Stokes.	example questions/	Calculate a double/ triple/ path/ surface integral. Apply the theorem of Green/ Gauss/ Stokes.					
Work placement Not applicable	Work placement	Not applicable					

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