GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00051063
Field of study	Technical Physics

Date of commencement of studies	October 2020	Academic year of realisation of subject	2020/2021
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	1	ECTS credits	11.0
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 inż. Magdalena Lemańska / dr Joanna Cyman

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	60.0	60.0	0.0	0.0	0.0	120

E-learning hours included: 0.0

Adresy na platformie eNauczanie:

Analiza matematyczna - Nowy - Moodle ID: 8636
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=8636

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	120	10.0	145.0	275

Subject objectives	Endowment of student to mathematical knowledge helping technical objects

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_U01	Student understands the importance of studying by himself. Student is practising by himself.	[SU2] Assessment of ability to analyse information
K6_W03	Student calculate limits of sequences of numbers and functions. Study monotonicity and extremas of a function. Student knows basic notions of differential calculus of functions of one variable. Can calculate indefinite integral using methods integration by parts and integration by substitution. Student understands mathematical theorems and it uses with they of solving exercises.	[SW1] Assessment of factual knowledge

Subject contents	Number sequences, convergent (divergent) sequences. Functions of one variable and their properties. Inverse trigonometric functions. Limit of function, continuous functions. Differential calculus of one variable. Derivative of function. Monotone function, convex (concave) function, extremum of function, asymptote of function. Rule of d'Hospital. Taylor's formula. Geometric and physical aplications of derivative. Indefinite integrals.
Prerequisites and co-requisites	Student knows basic mathematical notions

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Activity	0.0%	6.0%
	Examination	50.0%	40.0%
	Colloquium 1	0.0%	18.0%
	Colloquium 2	0.0%	18.0%
	Colloquium 3	0.0%	18.0%

Recommended reading	Basic literature	1. J. Topp, Mathematics. Function of one variable, Publishing House of University of Gdansk, 2016
		2. M. Gewert, Z. Skoczylas. Mathematical analysis 1. Definitions, theorems, formulas. Wroław GiS 2017.
		3. B. Wikieł, Matematyka. Basics with elements of higher mathematics, Wydawnictwo Politechniki Gdańskiej, 2015
		4. J. Dymkowska, D. Beger - Differential calculus in tasks, Publishing House of Gdańsk University of Technology, 2016
		5. J. Dymkowska, D. Beger - Integral calculus in tasks, Publishing House of Gdańsk University of Technology, 2017
	Supplementary literature	K. Jankowska, T. Jankowski, Set of exercises from mathematics. Publishing House of Gdańsk University of Technology, 2009
	eResources addresses	Analiza matematyczna - Nowy - Moodle ID: 8636 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=8636

Example issues/ example questions/ tasks being completed	Find extremum of the function
	Find the limit of a function

Work placement	Not applicable