Subject card

Subject name and code	, PG_00041840					
Field of study	Ocean Engineering, Ocean Engineering					
Date of commencement of studies	October 2020		Academic year of realisation of subject		2021/2022	
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study	
Mode of study	Part-time studies		Mode of delivery		at the university	
Year of study	2		Language of instruction		Polish	
Semester of study	4		ECTS credits		2.0	
Learning profile	general academic profile		Assessment form		assessment	
Conducting unit	Department of Hydromechanics and Hydroacoustics -> Faculty of Mechanical Engineering and Ship Technology					
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Michał Krężelewski			
	Teachers		dr inż. Michał Krężelewski			

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	10.0	0.0	0.0	0.0	20
	E-learning hours included: 0.0						
	Adresy na platformie eNauczanie:						

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	20	5.0	25.0	50

Subject objectives	Acquaintance with mathematical issues and solving mathematical issues using numerical methods.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_W04] has a basic knowledge in IT, electronics, automation and control, computer graphics useful to understand the possibilities of their application in ocean technology	Student is able to apply mathematical methods.	[SW3] Assessment of knowledge contained in written work and projects
	[K6_W01] has a basic knowledge in maths, including algebra, elements of logics, geometry, mathematical analysis, theory of probability necessary to describe and analyse the operation of machines and ocean-technology objects	Student is able to formulate mathematical issues and solve them using numerical methods.	[SW1] Assessment of factual knowledge

Subject contents	Introduction. Interpolation and approximation. Solving systems of linear algebraic equations. Solving algebraic nonlinear equations. Numerical methods od integration. Solving ordinary differential equations. Numerical optimizations methods.

Prerequisites and co-requisites	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		50.0%	100.0%

Recommended reading	Basic literature	1. A. Ralston, Introduction to numerical analysis, Warszawa 1971. 2. J. Stoer, R. Bulirsch, Introduction to numerical analysis, PWN, Warszawa 1987
		3. Lecture notes published on website course (eNauczanie)

	Supplementary literature	1. G. W. Stewart, Afternotes on Numerical Analysis, SIAM 1996, (bibl. inst mat.: 38598). 2. R. Zuber, Numerical methods and programming,PZWN, Warszawa 1972.
	eResources addresses	
Example issues/ example questions/ tasks being completed	interpolation. approximation, systems of linear and nonlinear equations, numerical methods of integration, ordinary differential equations	
Work placement	Not applicable	