



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 of 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	