



Subject card

Subject name and code	Aeromechanics, PG_00056247						
Field of study	Design and Construction of Yachts						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group					
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			3.0		
Learning profile	practical profile	Assessment form			assessment		
Conducting unit	Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Artur Karczewski					
	Teachers	dr inż. Artur Karczewski dr hab. inż. Paweł Dymarski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	E-learning hours included: 0.0						
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	30	5.0		40.0		75
Subject objectives	The aim of the course is to reach knowledge in the field of gas medium mechanics, and the skills in the use of mathematical description of the motion of this medium and the interaction between it and bodies moving in it for practical use in engineering.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K6_W02	The student has structured basic knowledge in the field of fluid mechanics of a gaseous medium.			[SW1] Assessment of factual knowledge		
	K6_U02	The student is able to carry out calculations and an experiment in the field of basic issues of interaction between the medium and the body moving in it.			[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task		
Subject contents	<p>The lectures: Forces and relations in a fluid medium; Liquids - gases; Static pressure, flow, velocity measurement, lift and drag; The flat plate problem; Flow description; Gas flows - elements of thermodynamics; subsonic, supersonic velocities; Reynolds, Mach numbers; The problem of the boundary layer.</p> <p>Lab: 1. Speed measurement 2. A numerical example of a selected profile 3. Measurement of the selected profile and calculation of its characteristics 4. Measurement of the characteristics of the selected profile in the wind tunnel 5. Lab exam</p>						

Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Test	51.0%	100.0%
Recommended reading	Basic literature	J.W. Slooff -The Aero- and Hydromechanics of Keel Yachts	
	Supplementary literature	L. Larsson, R. E. Eliasson, M. Orych Principles of yacht design	
	eResources addresses	Adresy na platformie eNauczenie: Aeromechanika - Jachty, I st., stac., Z2023/24 (sem. 3) - Moodle ID: 35031 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=35031	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		