

## 关。GDAŃSK UNIVERSITY 创 OF TECHNOLOGY

## Subject card

Subject name and code	Steam and Gas Turbines Constuction (WOiO), PG_00042090								
Field of study	Power Engineering, Power Engineering, Power Engineering, Power Engineering, Power Engineering								
Date of commencement of studies	October 2020		Academic year of realisation of subject			2022/2023			
Education level	first-cycle studies		Subject group						
Mode of study	Full-time studies		Mode of delivery			at the university			
Year of study	3		Language of instruction			English			
Semester of study	6		ECTS credits			4.0			
Learning profile	general academic 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 hab. inż. Jerzy Głuch						
	Teachers dr hab. inż. Jerzy Głuch								
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM	
	Number of study hours	15.0	0.0	0.0	0.0		15.0	30	
	E-learning hours included: 0.0								
	Address on the e-learning platform: https://enauczanie.pg.edu.pl/moodle/								
Learning activity and number of study hours	Learning activity Participation in classes include plan		n didactic ed in study	lactic Participation in n study consultation hours		Self-study SUM		SUM	
	Number of study 30 hours			5.0		65.0		100	
Subject objectives	Gaining basic knowledge in thermal turbomachinery design								
Learning outcomes	Course outcome Subject outcome Metho					Method of verif	ication		
	K6_U01		Student can design thermal turbine			[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools			
	К6_U05		Student can design energetycal objects on the base of balance calculation			[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			
	K6_W06		Student can evaluate energetical object taking into account diagnostics and reliability			[SW3] Assessment of knowledge contained in written work and projects			
Subject contents	Rotor design. Stress analysis of drum and disc rotors. Trigger rotations of folding disc rotors. Rotor balancing. Design of statordiscs. Stress analysis of statordiscs. Design of rotary blades and their mounts. Vibration of the blades. Basics of rotor dynamics. Turbine bodies and external glands. Design of radial and thrust bearings.								
Prerequisites and co-requisites	basic knoledge on termal turbomachinery cycles								
Assessment methods and criteria	Subject passing criteria		Passing threshold			Percentage of the final grade			
		3		ing threshold		-	<u> </u>	<u> </u>	
and criteria	seminary	9	100.0%			50.0%	g	<b>3</b> • • •	

Recommended reading	Basic literature	<ul> <li>Perycz S., Turbiny parowe i gazowe, Politechnika Gdańska, Skrypt, Gdańsk 1988</li> <li>Perycz S., Turbiny parowe i gazowe, Maszyny Przepływowe T. 10, Wydawnictwo Instytutu Maszyn Przepływowych PAN, Gdańsk 1992.</li> <li>Allen Bursley Heat Engines Steam, Gas, Steam Turbines and their Auxiliaries</li> <li>James Ambrose Moyer The Steam Turbine A Practical and Theoretical Treatise for Engineers and Designers, Including a Discussion of the Gas Turbine</li> <li>Cohn H Rogers Gas Turbine Theory</li> <li>Salisbury J K Steam Turbines and their Cycles</li> </ul>				
	Supplementary literature	Kosowski K, Introduction to the theory of marine turbines, Wyd. PG Delft University, Gdańsk 2004				
	eResources addresses	Adresy na platformie eNauczanie:				
		Mechanika płynów - Moodle ID: 29007 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=29007				
Example issues/ example questions/ tasks being completed	Descibe Gruber's method					
Work placement	Not applicable					