

## SDAŃSK UNIVERSITY 的 OF TECHNOLOGY

## Subject card

Subject name and code	Advanced CDIO Project, PG_00042082							
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			Optional subject group 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	3		Language of instruction			English		
Semester of study	6		ECTS credits			4.0		
Learning profile	general academic profile		Assessment form			assessment		
Conducting unit	Faculty of Ocean Engineering and Ship Technology							
Name and surname	Subject supervisor	dr hab. inż. Piotr Mioduszewski						
of lecturer (lecturers)	Teachers		dr hab. inż. P	iotr Mioduszew	/ski			
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM
	Number of study hours	0.0	0.0	.0 0.0 30.0			0.0	30
	E-learning hours inclu	uded: 0.0						
Learning activity and number of study hours	Learning activity Participation in classes include plan		I didactic     Participation in       ed in study     consultation hours		Self-study SUM			
	Number of study 30 hours		5.0		65.0		100	
Subject objectives	Acquiring the skills of designing equipment for hydro and wind power plants							
Learning outcomes	Course out	Subject outcome			Method of verification			
	K6_W09		In the designed device, it applies appropriate safe electric and hydraulic power suply and control systems			[SW3] Assessment of knowledge contained in written work and projects		
	K6_U02		during the implementation of the project uses modern computational methods and computer software supporting drawing documentation			[SU4] Assessment of ability to use methods and tools		
	K6_W08		He knows what is the protection of intellectual property and patent law			[SW3] Assessment of knowledge contained in written work and projects		
	K6_U01		Review and analyze contemporary literature related to the designed device and can apply acquired knowledge in the designed device		[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information			
Subject contents	The sequence of proceedings during the design of equipment for water and wind power plants: Review and analysis of materials related to the existing construction solutions of the given device. Analysis of regulations of classification societies and other institutions approving the project in the scope related to work. Specification of technical assumptions and operating conditions. Choosing or developing your own structural solution and developing its technical description and kinematic scheme. Analysis of device operation states and calculation of basic loads, and then stresses in the most loaded elements. Execution of the assembly drawing of the device and two executive drawings of selected elements. Final analysis and conclusions							
Prerequisites and co-requisites								
Assessment methods and criteria	Subject passing criteria		Passing threshold 75.0%			Percentage of the final grade 100.0%		

Recommended reading	Basic literature	<ol> <li>Dietrich M .: Basics of machine construction. Wydawnictwo Nauko Techniczne, Warsaw, 1999. 2. Krzyżanowski W .: Water turbines. Construction and rules of regulation. Scientific and Technical Publish Warsaw, 1971. 3. Hoffmann M.: Small hydropower plants. Nabba, Warsaw, 1991. 4. Grace A.: Water Plants. Ed. Naukowo-Techniczne, Warsaw, 1975. 5. Dobrzański J .: Machine technical drawing.</li> <li>Manwell J. F., Mc Gowan J. G., Rogers A. L.: Wind Energy Explained. Theory, Design and Application. Copyrright 202 by John Wiley &amp; Sons Ltd. England</li> </ol>			
	Supplementary literature	<ol> <li>Stryczek S.: Hydrostatic drive. Ed. Scientific and Technical. 2. Dymarski C. Controllable Pitch Propellers, construction and control, ed. P. G. Gdańsk 2011</li> <li>Cudny M: Ship shafting lines. Construction and calculations. Maritime Publishing House, Gdańsk, 1990.</li> </ol>			
	eResources addresses	Adresy na platformie eNauczanie:			
Example issues/ example questions/ tasks being completed					
Work placement	Not applicable				