



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 of lecturer (lecturers)	Subject supervisor	dr hab. inż. Piotr Mioduszcwski					
	Teachers	dr hab. inż. Piotr Mioduszcwski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	30.0	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		65.0	100
Subject objectives	Acquiring the skills of designing equipment for hydro and wind power plants						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K6_W09	In the designed device, it applies appropriate safe electric and hydraulic power supply 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			Percentage of the final grade		
	design	75.0%			100.0%		

Recommended reading	Basic literature	1. Dietrich M. : Basics of machine construction. Wydawnictwo Naukowo-Techniczne, Warsaw, 1999. 2. Krzyżanowski W. : Water turbines. Construction and rules of regulation. Scientific and Technical Publisher. 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. 6. Manwell J. F., Mc Gowan J. G., Rogers A. L.: Wind Energy Explained. Theory, Design and Application. Copyright 202 by John Wiley & Sons Ltd. England
	Supplementary literature	1. Stryczek S. : Hydrostatic drive. Ed. Scientific and Technical. 2. Dymarski C. Controllable Pitch Propellers, construction and control, ed. P. G. Gdańsk 2011 3. Cudny M: Ship shafting lines. Construction and calculations. Maritime Publishing House, Gdańsk, 1990.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	