



Subject card

Subject name and code	Plastic Materials Technology, PG_00046534						
Field of study	Ocean Engineering, Ocean 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	Part-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	6		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Theory and Ship Design -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Lech Rowiński				
	Teachers		dr hab. inż. Lech Rowiński				
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						
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		3.0		27.0	50
Subject objectives	Provide student with general knowledge regarding materials and manufacturing procedures of marine plastic and composite structures as well as principles of structural calculations of boat hulls,						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U05] can formulate a simple engineering task and its specification within the range of design, construction and operation of ocean technology objects and systems		student is able to formulate a task regarding the development of the technological process of a vessel made of polymer composites based on the principles of designing reinforced structures and the relationship between the structure and the manufacturing process		[SU1] Assessment of task fulfilment		
	[K6_W05] has an organized knowledge on design, construction and operation of ocean technology objects and systems		Knows the purpose and course of technological processes carried out during the construction of polymeric materials reinforced with organic and inorganic fibers		[SW1] Assessment of factual knowledge		
Subject contents	Materials used in boat building; Principal nomenclature used in composite engineering; Structure of polymers, thermoplasts and duroplasts; Properties of polymers, selection and modification. Reinforced plastic composites; Polymeric resin matrices and curing processes; Reinforcing fibres, organic and mineral; Technology of structural composites, handl-aying of laminates and vaccum supported processes. Structural elements of a hull. Dimensinning of a hull elements; Adhesives and gluing technology in hull structure assembly. Standards and classification rules regarding materials and technology of composite structures.						
Prerequisites and co-requisites	No requirements						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Short tests during lessons		60.0%		100.0%		

Recommended reading	Basic literature	<p>1.Dobrosz K.,Matysiak A.,Tworzywa sztuczne Warszawa WSZIP 1985</p> <p>2.Kłosowska-Wałkiewicz Z.,Królikowski W.,Penczek P.,Żywice i laminaty poliestrowe. Warszawa WNT 1980</p> <p>3.Kozłowski J.,Wilczopolski M..Materiałoznawstwo okrętowe czIII Okrętowe Tworzywa Polimerowe. Gdynia WSMW 1982</p> <p>4.Królikowski W., Tworzywa wzmocnione i włókna wzmacniające. Warszawa WNT 1988</p> <p>5. Spychaj T. Spychaj D.,Farby i kleje wodorozcieńczalne Warszawa WNT 1996</p> <p>6. Żuchowska D.,Polimery konstrukcyjne. Warszawa WNT 1995</p>
	Supplementary literature	1.Błędzki A.K. i inni: Recykling materiałów polimerowych, Wydawnictwa Naukowo Techniczne, Warszawa, 1997.
	eResources addresses	Adresy na platformie eNauczanie:
	Example issues/ example questions/ tasks being completed	
Work placement	Not applicable	