



Subject card

Subject name and code	Product Development, PG_00071143						
Field of study	Mechatronics, Power Engineering, Management and Production Engineering, Nuclear Engineering						
Date of commencement of studies	February 2026		Academic year of realisation of subject		2026/2027		
Education level	second-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		English		
Semester of study	2		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Division of Ecoengineering and Combustion Engines -> Institute of Energy -> Faculty of Mechanical Engineering and Ship Technology -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Jacek Kropiwnicki				
	Teachers		Aleksandar Miltenović dr hab. inż. Jacek Kropiwnicki				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
	eNauczanie source addresses: Moodle ID: 7844 Product Development; 2026 winter; Thursdays 18:30-20:00; W, sem. 02 (PG_00071143) https://enauczanie.pg.edu.pl/2025/course/view.php?id=7844						
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		0.0		0.0	30
Subject objectives	Familiarization with product design execution, requirements, concept generation, design for production/assembly, and industrial application studies.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W12] identifies and interprets the main developmental trends and significant new achievements in the field of engineering and technical sciences and disciplines relevant to the course of study		identifies and interprets major development trends and the most significant new achievements in the field of product development		[SW1] Assessment of factual knowledge		
	[K7_U82] is able to proficiently obtain and process information related to field of study and academic environment in foreign language at B2+ level of the Common European Framework of Reference for Languages (CEFR)		possesses the ability to efficiently acquire and process information regarding product development in a foreign language at the B2+ level of the Common European Framework of Reference for Languages		[SU2] Assessment of ability to analyse information		
	[K7_U14] integrates information obtained from literature and other properly selected sources, including those in a foreign language, creatively interpreting and critically evaluating them, and drawing conclusions		integrates information obtained from literature and other appropriately selected sources—including those in foreign languages—by creatively interpreting and critically evaluating the material, and drawing conclusions regarding product development		[SU2] Assessment of ability to analyse information		
	[K7_K82] is equipped to participate actively in lectures, seminars and laboratory classes conducted in foreign language		is prepared to actively participate in lectures, seminars, and laboratory classes conducted in a foreign language, particularly in the field of product development		[SK2] Assessment of progress of work		

Subject contents	Course content – lecture Product design process, requirements, concept generation, design for manufacturing/assembly, and industrial case studies.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written test	50.0%	100.0%
Recommended reading	Basic literature	Pahl G., at. al.: Engineering Design A Systematic Approach. Springer. Jamnia A.: Introduction to Product Design and Development for Engineers. CRC Press.	
	Supplementary literature	Cantamessa M., Montagna F.: Management of Innovation and Product Development. Springer.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	1. Fill in the gaps in the product life cycle on the market diagram and explain the break-even point. 2. What is the difference between the integral and differential design approaches? 3. What is the coevolution of problem and solution?		
Practical activites within the subject	Not applicable		

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