GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Product Development, PG_00071143						
Field of study	Power Engineering, Mechatronics, Power Engineering, Power Engineering, Nuclear Engineering						
Date of commencement of studies	February 2025		Academic year of realisation of subject	2025/2026			
Education level	second-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery	at the university			
Year of study	2		Language of instruction	English			
Semester of study	3		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	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: 3846 Product Development; Power Engineering, Mechatronics, Nuclear Engineering, Production Management and Engineering, W, sem. 03, letni 25/26 (PG_00071143)
https://enauczanie.pg.edu.pl/2025/course/view.php?id=3846

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_K81] is able to cooperate in international team at her/his own university, during work placement and during study abroad	can collaborate in an international team at their own university and during internships and studies abroad in the field of product development	[SK2] Assessment of progress of work
[K7_W81] has knowledge of complex grammatical structures and diverse lexical resources needed to communicate in foreign language in terms of general and specialist language related to field of study	has knowledge of complex grammatical structures and various lexical areas necessary for communication in a foreign language, both general and specialized, related to the field of study in product development	[SW1] Assessment of factual knowledge
[K7_U13] evaluates the feasibility and potential for utilizing new technical and technological achievements in accomplishing tasks characteristic for the field of study	assesses the usefulness and feasibility of using new developments (techniques and technologies) in carrying out tasks specific to the field of study in product development	[SU1] Assessment of task fulfilment
[K7_U81] is able to communicate with ease in foreign language at B2+ level of the Common European Framework of Reference for Languages (CEFR) in everyday life, in academic and professional environments	has the ability to communicate fluently in a foreign language at the B2+ level of the Common European Framework of Reference for Languages in everyday situations and in academic and professional environments in the field of product development	[SU1] Assessment of task fulfilment
[K7_K11] is aware of importance of professional acting, the need for critical verification of acquired knowledge and consulting experts opinion in case of facing difficulties with individual problem solving	is aware of the importance of acting professionally, the need to critically review one's knowledge, and seeking expert advice when facing difficulties in independently solving a product development problem	[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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