



Subject card

Subject name and code	Material standards in production processes, PG_00059502						
Field of study	Management and Production Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-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	1	Language of instruction			Polish Polish		
Semester of study	2	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Gabriel Strugała				
	Teachers		dr inż. Gabriel Strugała				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	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		8.0		37.0	75
Subject objectives	Acquisition of theoretical and practical skills for using material standards in production processes. To know the components of standards, the purpose of using them in companies and to acquire the ability to verify the material compliance with standards.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_K05] is able to integrate the possessed knowledge from various scientific disciplines, and in the innovative implementation of engineering tasks also take into account system and non-technical aspects, including ethical ones	Purpose of using material standards in enterprises: To be aware of the role of standards in ensuring product consistency, quality and safety. To understand how standards affect the design, production, testing and quality control processes.	[SK5] Assessment of ability to solve problems that arise in practice
	[K7_U01] can obtain information from literature, databases and others sources, also in English or another foreign language recognized as the language of international communication in a given engineering discipline; is able to integrate the obtained information, interpret it, as well as draw conclusions and formulate and justify opinions.	Ability to interpret material standards: Analysis and interpretation of standards requirements for specific materials and production processes. Ability to translate the requirements of standards into practical steps in the production process.	[SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information
	[K7_K01] is aware of the need to expand knowledge and verify the methods of solving problems by consulting experts	Ability to verify compliance of materials with standards: Development of quality control procedures based on standards. Use of testing and measurement techniques to assess compliance of materials with specified standards.	[SK5] Assessment of ability to solve problems that arise in practice [SK1] Assessment of group work skills
	[K7_W01] knows and understands to a greater extent selected issues in the field of management and quality sciences and mechanical engineering, their location in the field of social sciences and engineering and technical sciences, as well as relationships with related disciplines, and sees the possibility of applying the knowledge in practice	It has theoretical and practical skills in material standards in production processes, which is key to effective quality management and ensuring that products comply with established standards.	[SW3] Assessment of knowledge contained in written work and projects
[K7_W03] has an orderly, theoretically founded knowledge related to selected areas of production engineering.	Knowledge of specific industry standards that are relevant to the production sector. Keeping abreast of updates and changes in standards and adapting production processes to new requirements.	[SW3] Assessment of knowledge contained in written work and projects	
Subject contents	Definition of the standard Features of a standard Different types of standards Standards and patents What are the benefits of standards Value of standards for the company Value of standards for society Value of standards for consumers Evaluation of compliance How standards are developed and how they are structured Why is it important to know about the standardisation process? How the standardisation process works Different ways to participate in standardisation How standards are structured Standards and other standardisation products How standards are numbered How standards are titled Standards support innovative research Standards support innovative products European context National context		
Prerequisites and co-requisites	None		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		50.0%	100.0%

Recommended reading	Basic literature	<p>A world built on standards. A handbook for university students, Danish Standards Foundation 2015</p> <p>Act of 12 September 2002 on standardisation.</p> <p>Act of 13 April 2016 on conformity assessment and market surveillance systems</p> <p>Access in the PG standards reading room to current nom via https://www.pkn.pl/</p>
	Supplementary literature	None
	eResources addresses	<p>Adresy na platformie eNauczenie:</p> <p>Normy materiałowe w procesach produkcyjnych - Moodle ID: 35052 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=35052</p>
Example issues/ example questions/ tasks being completed	<p>Explain the factors to be considered when selecting materials for a specific engineering application.</p> <p>Plan the manufacturing process for a new component, considering material selection, manufacturing techniques and quality control.</p> <p>Conduct a strength analysis for a specific engineering component.</p>	
Work placement	Not applicable	