



Subject card

Subject name and code	Material standards in production processes, PG_00064733						
Field of study	Management and Production Engineering						
Date of commencement of studies	February 2025		Academic year of realisation of subject			2025/2026	
Education level	second-cycle studies		Subject group			Specialty 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	
Semester of study	2		ECTS credits			3.0	
Learning profile	general academic profile		Assessment form			assessment	
Conducting unit	Zakład Materiałoznawstwa I Technologii Materiałowych -> Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Krzysztof Krzysztofowicz				
	Teachers						
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		9.0		36.0	75
Subject objectives	Acquiring theoretical and practical skills in using material standards in production processes. Familiarization with the structure of standards.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[K7_U15] evaluates the feasibility of advanced methods and tools for solving complex engineering tasks of a practical nature, characteristic of the field of study, and selects and applies appropriate methods and tools for this purpose		Awareness of the importance of standards for ensuring product quality and safety. Understand the impact of standards on design, production and quality control.			[SU3] Assessment of ability to use knowledge gained from the subject	
	[K7_W04] demonstrates knowledge covering selected issues in the field of advanced detailed knowledge, in particular in the field of methods, techniques, tools and algorithms used in production management and control processes as well as in the design of technological processes		Ability to use available standardization resources			[SW3] Assessment of knowledge contained in written work and projects	
	[K7_K13] is ready for responsible performance of professional roles, considering ever-changing need of the society, including self developement and supporting and fulfilling work ethics		Awareness of the importance of standardization in improving production processes			[SK1] Assessment of group work skills	
	[K7_U02] formulates and tests hypotheses related to problems occurring in stationary and non-stationary systems as well as in production and technological processes combined with simple research problems		Is able to identify standards supporting the solution of a problem and use the information contained therein.			[SU1] Assessment of task fulfilment	

Subject contents	Standards and the standardization process. The layout of the standard and the scope of information covered by the standard. Types of standards and national and international standardization institutions. Rules for marking grades of ferrous alloys and non-ferrous metal alloys according to Polish, European, ISO and American AISI, UNS standards. Unification and standardization of marking of metallurgical products. Overview of groups and requirements for metal materials used in various industries. Regulations specifying acceptance requirements for steel products (standards, regulations of Shipbuilding Companies Classification, UDT regulations). Principles of selecting substitutes for steel and non-ferrous metal alloys.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	laboratory	50.0%	50.0%
	colloquium	50.0%	50.0%
Recommended reading	Basic literature	1. Blicharski M.: Inżynieria materiałowa. Stal. WNT Warszawa, 2004 2. Dobrzański L.: Podstawy nauki o materiałach i metaloznawstwo. WNT, Warszawa 2002. 3. Łabanowski J.: Ocena jakości wyrobów hutniczych. Wyd. PWSZ w Elblągu, Elbląg 2008 4. Adamczyk J.: Inżynieria materiałów metalowych, cz I i II. Wyd. Politechniki Śląskiej, Gliwice 2004.	
	Supplementary literature	1. Dobrzański L.A.: Materiały inżynierskie i projektowanie materiałowe. WNT, Warszawa, 2005. 2. Normy PN, PN-EN, ISO, ASTM, przepisy UDT. 3. Przepisy Okrętowych Towarzystw Klasyfikacyjnych: PRS, DNV, LR, GL 4. Dyrektywy Europejskie - Maszynowa, NN, EX, itp.	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Definitions of steel products.Classification rules.UDT regulations.Scope of information about materials included in the standards.Selection of acceptance tests for the selected material		
Work placement	Not applicable		

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