



Subject card

Subject name and code	QUALITY ENGINEERING, PG_00061340						
Field of study	Engineering Management						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study 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	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		6.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department Of Management Engineering And Quality -> Faculty Of Management And Economics -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Piotr Grudowski				
	Teachers		dr hab. inż. Piotr Grudowski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	0.0	60
	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	60		7.0		83.0	150
Subject objectives	Analyzes production processes using quantitative and qualitative methods, making a critical assessment of them allowing for continuous improvement of quality						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W07] analyzes in an advanced way management processes in the technical, legal, economic, financial and social context		uses advanced methods currently used in quality engineering to analyze and evaluate production processes		[SW1] Assessment of factual knowledge		
	[K6_U05] designs innovative solutions for complex management processes, using appropriate methods and techniques		designs innovative pro-quality solutions for processes using advanced analytical methods		[SU4] Assessment of ability to use methods and tools		
Subject contents	LECTURE Introduction to the subject The concepts of variability, stability and process capability Basic quantitative data analysis tools Classification and identification of quality problems The essence of the Six Sigma program Team organization; roles in and around the team DMAIC methodology LABORATORY Fundamentals of metrology and technical drawing Validation of measurement tools Measurement System Analysis (MSA) Statistical Process Control (SPC) Tools and methods for identifying the causes of non-compliance Analysis of the probability of occurrence and consequences of the risk associated with a non-compliant product						
Prerequisites and co-requisites							

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Test	60.0%	25.0%
	Exam	60.0%	50.0%
	Work in groups	60.0%	25.0%
Recommended reading	Basic literature	Piotr Grudowski, Włodzimierz Przybylski, Mieczysław Siemiątkowski, Inżynieria jakości w technologii maszyn, Wydawnictwo Politechniki Gdańskiej, 2006 Adam Hamrol, Zarządzanie i inżynieria jakości Wydawnictwo Naukowe PWN, 2018 Piotr Grudowski, Ewa Leseure, LSS Plutus - Lean Six Sigma dla małych i średnich przedsiębiorstw, WNT, 2013	
	Supplementary literature	None	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Actions as a result of the use of SPC cards Elements of the Robust Design methodology The importance of measurement in the assessment of process variability Elements of technical drawing Variation analysis in the process Measurement system analysis		
Work placement	Not applicable		

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