

## 。 GDAŃSK UNIVERSITY OF TECHNOLOGY

## Subject card

Subject name and code	Lean Manufacturing, PG_00059505							
Field of study	Management and Production Engineering							
Date of commencement of studies	February 2024		Academic year of realisation of subject			2024/2025		
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		
Semester of study	2		ECTS credits		4.0			
Learning profile	general academic profile		Assessment form		exam			
Conducting unit	Katedra Inżynierii Zarządzania i Jakości -> Faculty of Management and Economics							
Name and surname of lecturer (lecturers)	Subject supervisor Teachers		dr hab. inż. Piotr Grudowski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Projec	oject Semi		SUM
	Number of study hours	30.0	15.0	0.0	15.0		0.0	60
	E-learning hours included: 0.0							
earning activity Learning activity Participation in dida nd number of study hours Participation in dida classes included in plan		n didactic led in study	Participation in consultation hours		Self-study		SUM	
	Number of study hours	60		6.0		34.0		100
Subject objectives	The aim of the Lean Manufacturing course is to develop students' ability to use toolsLean Manufacturing to eliminate key challenges in production processes. The aim of the theoretical material (lectures) is to familiarize students with the problems that arise inproduction processes and how the presented tools help in solving themThe aim of the exercises is to support students in developing skills and using various toolsprocesses and situations.							

Learning outcomes	Course outcome	Subject outcome	Method of verification		
	[K7_W03] has an orderly, theoretically founded knowledge related to selected areas of production engineering.	The student has basic knowledge of using Lean Manufacturing tools to eliminate key challenges in production processes.	[SW1] Assessment of factual knowledge		
	[K7_U08] is able to work in a group, assuming various roles in it, including managing a small team, assuming responsibility for the results his work	Within teamwork, the student is able to apply and use elements of the LM concept to improve processes.	[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools		
	[K7_U04] is able to plan and carry out experiments, including measurements and computer simulations, interpret the obtained results and extract conclusions; can use analytical, simulation and experimental methods to formulate and solve engineering tasks	The student is able to design solutions using indicated methods and tools of Lean Manufacturing	[SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment		
	[K7_K02] is aware of the importance and understanding of non-technical aspects and effects of engineering activities, including its impact on the environment, and the related responsibility for decisions made demonstrates knowledge of actions to reduce risk and anticipate the social impact of engineering and manufacturing activities	The student is aware of not only the benefits but also the risks resulting from the application of elements of the LM concept.	[SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice		
	[K7_K01] is aware of the need to expand knowledge and verify the methods of solving problems by consulting experts	The student recognizes the need to expand knowledge by referring to the opinions of experts in the area of LM (Master Black Belt).	[SK1] Assessment of group work skills [SK4] Assessment of communication skills, including language correctness		
Subject contents	1. Basic concepts related to Lean Ma eliminating waste4. Gemba Walk - ic organization of supplying materials to changeover times9. Kamishibai - lay changes in processes	anufacturing2.Problem solving3. 5S - lentifying problems in processes5. Si o stations7. Poka-yoke - right the firs ered auditing of standards10. One p	involvement in noticing and tandardization of work6. Milk run - t time8. SMED - shortening bint lesson - communication of		
Prerequisites and co-requisites	The student should complete the sut	oject of Production Management;			
Assessment methods	Subject passing criteria	Passing threshold	Percentage of the final grade		
and criteria	passing an e-learning course	75.0%	10.0%		
	exam	60.0%	20.0%		
	mini projects	60.0%	60.0%		
	activity and punctuality	70.0%	10.0%		
Recommended reading	Basic literature	<ol> <li>"The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer" Jeffrey Liker.</li> <li>"Lean Thinking: Banish Waste and Create Wealth in Your Corporation" James P. Womack, Daniel T. Jones.</li> <li>"Lean Production Simplified: A Plain-Language Guide to the World's Most Powerful Production System" Pascal Dennis.</li> </ol>			
	Supplementary literature	Seria książek Shopfloor wydawnictv	va Productivity Press		

	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Use the tool in relation to the given problem in the form of a case study		
Work placement	Not applicable		

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