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		dr hab. inż. Piotr Grudowski				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	15.0	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		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 Manufacturing2.Problem solving3. 5S - involvement in noticing and eliminating waste4. Gemba Walk - identifying problems in processes5. Standardization of work6. Milk run - organization of supplying materials to stations7. Poka-yoke - right the first time8. SMED - shortening changeover times9. Kamishibai - layered auditing of standards10. One point lesson - communication of changes in processes

Prerequisites and co-requisites

The student should complete the subject of Production Management;

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
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	1. "The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer" Jeffrey Liker. 2. "Lean Thinking: Banish Waste and Create Wealth in Your Corporation" James P. Womack, Daniel T. Jones. 3. "Lean Production Simplified: A Plain-Language Guide to the World's Most Powerful Production System" Pascal Dennis.
Supplementary literature	Seria książek Shopfloor wydawnictwa 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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