



Subject card

Subject name and code	Lean Management, PG_00070231						
Field of study	Lean Management						
Date of commencement of studies	October 2023		Academic year of realisation of subject			2025/2026	
Education level	first-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	3		Language of instruction			Polish	
Semester of study	6		ECTS credits			6.0	
Learning profile	general academic profile		Assessment form			assessment	
Conducting unit	Department of Management Engineering and Quality -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Ewa Marjańska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	0.0	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		10.0		80.0	150
Subject objectives	The aim of the course is to prepare students to identify waste and to analyze and improve organizational processes using Lean Management principles, based on knowledge of creative and entrepreneurial action, as well as to develop attitudes of responsibility and reflexivity in making improvement-oriented decisions in the context of contemporary organizational functioning.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[K6_K03] Critically evaluates their own knowledge necessary to solve cognitive and practical problems, supplementing gaps with input from external experts.		He/She is prepared to critically evaluate their own knowledge and the improvement choices they make, particularly through participation in discussions, team tasks, and reflections on identifying waste and opportunities for process improvement within the organization.			[SK2] Ocena postępów pracy	
	[K6_W04] Possesses advanced knowledge of the principles of creative and entrepreneurial action, including identifying and implementing innovative ideas while considering copyright protection requirements.		He/She knows and understands the principles of creative and entrepreneurial action in the context of identifying waste, analyzing value flow, and Lean Management as an approach to organizational improvement.			[SW1] Ocena wiedzy faktograficznej	

Subject contents

Course content – lecture

1. The essence and assumptions of Lean Management

2. Value in Lean what is value-added and how is it defined by the customer?
3. Types of waste in Lean: MUDA, MURA, MURI three perspectives on inefficiency
4. A brief history of Lean Thinking and the Toyota Production System
5. Lean as a strategy for competitive advantage: global competition, customer demands, and the limits of traditional methods
6. The role of Taiichi Ohno and the development of the Toyota Production System (TPS)
7. Total Quality Management (TQM) and its relationship to Lean
8. Demings 14 principles in the context of Lean
9. Toyota Way 2001 and values as the foundation of Lean culture
10. Traditional culture vs Lean culture key differences
11. Kaizen and the 10 principles of continuous improvement
12. The five principles of Lean Thinking (Value, Value Stream, Flow, Pull, Perfection)
13. The Toyota Production System Jidoka and Just-in-Time
14. The role of leadership and employee engagement in Lean
15. Key Lean tools: an introduction to practical application

Course content – exercises

1. Identifying waste (MUDA) in a selected process

2. Value Stream Mapping / Makigami analysis of process flow
3. 5x Why root cause analysis
4. Classification of activities: VA / NVA / NNVA
5. Simulation: one-piece flow vs batch production
6. Work standardization creating a basic standard
7. Kaizen workshop proposing small improvements

	8. Team dysfunctions (Lencioni) diagnosis and discussion 9. Gemba Walk observing a process and identifying problems 10. Designing a Daily Management board 11. Improvement Kata leaderemployee coaching simulation 12. Defining values and behaviors in an organization 13. Case study: from waste to improvement 14. Designing a simple pull system (Kanban) 15. Problem map and prioritization of improvement action		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Test	60.0%	35.0%
	Reflective study journal	60.0%	30.0%
	Case study	60.0%	35.0%
Recommended reading	Basic literature	Liker, J. K. (2017). <i>Droga Toyoty. 14 zasad zarządzania wiodącej firmy produkcyjnej</i>. MT Biznes. Czerska, J. (2009). <i>Doskonalenie strumienia wartości</i>. Difin. Womack, J. P., & Jones, D. T. (2008). <i>Lean thinking: Szczipłe myślenie o eliminowaniu strat i tworzeniu wartości w przedsiębiorstwie</i>. ProdPress.com.	
	Supplementary literature	Ohno, T. (1988). <i>Toyota production system: Beyond large-scale production</i>. Productivity Press. George, M. L. (2003). <i>Lean Six Sigma for service: How to use Lean speed and Six Sigma quality to improve services and transactions</i> . McGraw-Hill.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	1. Explain the philosophy of Lean Management. Include the difference between a process-oriented approach and the traditional approach to management. 2. What is Value Added in Lean and how is it defined by the customer? Provide an example of a VA (Value-Added), NVA (Non-Value-Added), and NNVA (Necessary but Non-Value-Added) activity in any process. 3. Discuss the concepts of MUDA, MURA, and MURI. Explain how they differ from one another and why all three hinder the achievement of operational excellence. 4. Present the principles of Kaizen and the role of employee engagement in continuous improvement. Give an example of a small improvement that could be implemented in an organization. 5. Choose one Lean tool (e.g., 5S, Kanban, Standardized Work, or Gemba Walk) and explain what it is used for, what benefits it brings, and what challenges may arise during its implementation.		

Practical activities within the subject	Not applicable
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