GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Lean Management , PG_00070217		
Field of study	Economics		
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	Ewa Bartoszewska dr inż. Ewa Marjańska	

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

eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=47795

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 analyse and improve organisational processes using the principles of Lean Management, based on knowledge related to creative and entrepreneurial action, and to develop attitudes of responsibility and reflection.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W04] Possesses advanced knowledge of the principles of creative and entrepreneurial action, including identifying and implementing innovative ideas while considering copyright protection requirements.	Formulates innovative solutions to problems of process inefficiency using Lean Management techniques at an advanced level.	[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects
[K6_K03] Critically evaluates their own knowledge necessary to solve cognitive and practical problems, supplementing gaps with input from external experts.	Is ready to critically evaluate their own knowledge and improvement-related decisions, particularly through participation in discussions, teamwork tasks, and reflections on identifying waste and opportunities for process improvement in an organization.	[SK5] Assessment of ability to solve problems that arise in practice

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. I**dentifying 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
Projects + results presentation	60.0%	50.0%
Reflective study journal	60.0%	10.0%
Test	60.0%	40.0%

Recommended reading

Basic literature	**Liker, J. K. (2017).** ***Droga Toyoty. 14 zasad zarządzania wiodącej firmy produkcyjnej*****. MT Biznes.** **Czerska, J. (2009).** ***Doskonalenie strumienia wartości*****. Difin.** **Womack, J. P., & Jones, D. T. (2008).** ***Lean thinking: Szczupłe myślenie o eliminowaniu strat i tworzeniu wartości w przedsiębiorstwie*****. ProdPress.com.**
Supplementary literature	**Ohno, T. (1988).** ***Toyota production system: Beyond large-scale production*****. Productivity Press.** **George, M. L. (2003).** ***Lean Six Sigma for service: How to use Lean speed and Six Sigma quality to improve services and transactions*** **. 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 activites within the subject	Not applicable

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