GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Lean Management, PG_00074013		
Field of study	Engineering Management		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2026/2027
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	2	Language of instruction	English
Semester of study	4	ECTS credits	2.0
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	0.0	30.0	0.0	0.0	0.0	30

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	30	5.0	15.0	50

Subject objectives

The aim of the course is to prepare students to identify waste, analyze and improve organizational processes using Lean Management principles and tools based on the Toyota Production System (TPS), as well as to develop their ability to critically assess their own knowledge and draw on expert experience when solving management problems.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K03] is prepared to critically assess the knowledge they possess, which is necessary for solving cognitive and practical problems, and to supplement any gaps with opinions from external experts.	Is prepared to critically assess their own knowledge of Lean Management and address knowledge gaps by drawing on the opinions and experience of external experts, particularly when analyzing organizational problems and developing improvement proposals.	[SK2] Assessment of progress of work
[K6_U05] designs innovative solutions for complex management processes by utilizing appropriate methods and techniques.	Is able to analyze organizational processes, identify waste, and develop improvement proposals by applying Lean Management principles and selected methods based on the Toyota Production System (TPS).	[SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task

<table>
<tr><td>Subject contents</td><td>Course content – exercises

1. Continuous Improvement Management. Improvement Kata as a method for developing process improvement skills.

2. Waste Identification and Value Flow Analysis. Introduction to value stream mapping using the Makigami method.

3. Analysis and Diagnosis of Organizational Processes. Identifying problems and assessing the current state through case studies.

4. Setting Improvement Goals and Designing the Future-State Process Vision.

5. Root Cause Analysis and Designing Improvement Actions.

6. Planning and Implementing Changes Using a Roadmap.

7. Designing Alternative Process Improvement Concepts, taking into account resource and technological constraints (zero-budget solutions, low-cost solutions, and new technologies).

8. Change Communication and Employee Engagement in the Continuous Improvement Process.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>obligatory tasks (exercises)</td><td>60.0%</td><td>40.0%</td></tr>
<tr><td>mini project</td><td>60.0%</td><td>40.0%</td></tr>
<tr><td>presentation of the result of mini project</td><td>60.0%</td><td>20.0%</td></tr>
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</td></tr>
<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>1. Womack, J. P., & Jones, D. T. (2003). Lean Thinking: Banish Waste and Create Wealth in Your Corporation. Revised and Updated Edition. Free Press.

2. Liker, J. K. (2004). The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer. McGraw-Hill.</td></tr>
<tr><td>Supplementary literature</td><td>1. Rother, M. (2009). Toyota Kata: Managing People for Improvement, Adaptiveness and Superior Results. McGraw-Hill.

2. Lencioni, P. (2002). The Five Dysfunctions of a Team: A Leadership Fable. Jossey-Bass.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
</table>
</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>1. Develop a set of team values
2. Develop a team competence matrix
3. Build one-point lessons for selected lean tools
4. Analyze the process using the makigami method
5. Use the priority matrix to determine key changes in the process
6. Design changes in the process using the makigami method
7. Build and implement your development plan based on lean management course</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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