GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Lean Manufacturing, PG_00062997		
Field of study	Mechatronics		
Date of commencement of studies	February 2023	Academic year of realisation of subject	2023/2024
Education level	second-cycle studies	Subject group	
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	English
Semester of study	3	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Jacek Kropiwnicki	
	Teachers	dr hab. inż. Jacek Kropiwnicki	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	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	0.0	0.0	30

Subject objectives

Learning the methods of development of production systems, process optimization strategies and change management.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_W06] has detailed, supported by the theory knowledge in terms of mechatronic design, mechatronic systems and machines, devices and process where they are used	The student is able to communicate in English while discussing process optimization strategies, analytical methods, Lean principles and methods, change management, and Lean Manufacturing implementation strategies.	[SW1] Assessment of factual knowledge
[K7_W02] has organised, general, supported by the theory knowledge in terms of systems theory and techniques, mechatronic design, mechatronic systems and exploitation of mechatronic devices	The student is prepared to actively participate in lectures in a foreign language in the field of Lean Manufacturing	[SW1] Assessment of factual knowledge
[K7_W10] knows development trends and most important new achievements in technical sciences and science disciplines: Mechanical Engineering, Automation, Electronics and Electrical Engineering and related: Informatics and Materials Engineering	The student knows process optimization strategies, analytical methods, Lean principles and methods, change management, and Lean Manufacturing implementation strategies.	[SW1] Assessment of factual knowledge

Subject contents

Development of Production Systems and Lean Management. Strategies in Process Optimisation. Analytical Methods. Lean Principles and Lean Methods. Change Management. Roll-out Strategies for Lean Manufacturing. Total productive Management.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Test	60.0%	100.0%

Recommended reading	Basic literature	Liker, Jeffrey K.: The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer, 2nd Edition, McGraw-Hill Education Ltd, 2020. Womack, James P.; Jones, Daniel T.; Roos, Daniel: The Machine That Changed the World, Free Press, 2007. Womack, James P.; Jones, Daniel T.: Lean Thinking: Banish Waste and Create Wealth In Your Corporation, Simon & Schuster, 2003.
	Supplementary literature	Monden, Yasuhiro: Toyota Production System: An Integrated Approach to Just-in-Time. Productivity Press; 4th Edition, 2011. Ohno, Taiichi: Toyota Production System: Beyond Large-Scale Production. Productivity Press; Repr. Edition, 1988.
	eResources addresses	Adresy na platformie eNauczanie: Lean Manufacturing, W, Mechatronika, IDE, sem. 03, letni 23/24 (PG_00062997) - Moodle ID: 37977 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37977
Example issues/ example questions/ tasks being completed	Development of Production Systems and Lean Management. Strategies in Process Optimisation. Analytical Methods. Lean Principles and Lean Methods. Change Management. Roll-out Strategies for Lean Manufacturing. Total productive Management.	
Work placement	Not applicable	