GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Production improvement methods and techniques, PG_00055245						
Field of study	Management and Production Engineering						
Date of commencement of studies	October 2022		Academic year of realisation of subject	2024/2025			
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	5		ECTS credits	1.0			
Learning profile	general academic profile		Assessment form	assessment			
Conducting unit	Zakład Technologii Maszyn i Automatyzacji Produkcji -> Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Aleksandra Wiśniewska				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15		2.0	8.0		25
Subject objectives	Improving production processes brings measurable effects, not only economic (financial). Its effect may be the reduction and optimization of costs, improvement of work quality, increase in efficiency and productivity, improvement of communication and improvement of efficiency and effectiveness of operations.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W11] knows and understands the basic concepts and principles of the protection of industrial property and copyright law, can use the resources of patent information	The student knows and understands the basic concepts and principles of the protection of industrial property and copyright, is able to use the resources of patent information and institutional support in the field of intellectual property protection.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
[K6_U03] is able to communicate using various techniques in the professional environment and other environments, has language skills enabling free communication in the field of technical sciences related thematically to management and production engineering	The student is able to develop reports, procedures and instructions using the principles of standardization and visualization and in compliance with the principles, methods and tools of information and communication techniques. The student is able to formulate statements and messages in a manner adapted to the level of thematic apperception of the recipient. At the same time, the student freely uses technical and industry vocabulary in the areas of the analyzed problems, expressing himself freely in Polish and English.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject
[K6_K02] is able to interact and work in a group, assuming different roles, can inspire and organize the learning process of others, properly identifies priorities for realization of a task specified by themselves or others	The student is able to use the acquired knowledge in the field of team building to create an effective team of employees. The student uses dedicated methods of motivating to manage the work of the team, motivating employees and resolving conflicts. The student assumes the role of a leader and uses appropriate tools to improve communication in the team, increase the effectiveness of the team's work and build the image of the team within the organization and environment.	[SK2] Assessment of progress of work [SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness [SK3] Assessment of ability to organize work

Subject contents

- Introduction to the course
- Evalution of improvement approach - comparison of approach of H. Forda vs Toyota
- Lean phylosophy
- VSM5S i standaryzacja pracy
- Kanban system
- Setup time reduction using SMED
- TPM
- OEE
- Autonomus Managment
- Planned Mantenance
- Six Sigma concept and i DMAIC
- Steps D, M, A, I, C and tools

Prerequisites and co-requisites

knowledge of basic problem solving tools

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
egzam 1hour	60.0%	100.0%

Recommended reading

Basic literature	1. Goldratt Eliyahu M. - Cel. Doskonałość w produkcji 2. Womack James P., Jones D. T. - Odchudzanie firm 3. Liker Jeffrey K. - Droga Toyoty
Supplementary literature	4. Imai Masaaki - Gemba Kaizen 5. Hines Peter, Taylor David -Organizacja Lean
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed

Work placement	Not applicable