



## Subject card

Subject name and code	Production Management, PG_00067365						
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		Obligatory subject group in the field of study 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		Polish		
Semester of study	3		ECTS credits		7.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department Of Management Engineering And Quality -> Faculty Of Management And Economics -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor						
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	15.0	30.0	0.0	75
	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	75		5.0		95.0	175
Subject objectives	Designs production processes based on data and good practices in production management, preparing the project for implementation in everyday production.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W04] possesses advanced knowledge of the principles of creative and entrepreneurial activity, enabling the identification and implementation of innovative ideas while ensuring compliance with copyright protection requirements.		has knowledge of approaches that support the implementation of innovative solutions in production settings, taking into account formal and regulatory aspects related to the protection of creativity and innovation		[SW3] Assessment of knowledge contained in written work and projects		
	[K6_U06] acquires specialized knowledge in the field of engineering management, demonstrating the ability to effectively plan individual work and pursue lifelong learning.		is able to independently expand their knowledge in production management, effectively organizing their work and adapting to evolving technological and organizational conditions		[SU5] Assessment of ability to present the results of task [SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_K01] is ready to fulfill professional roles responsibly, taking legal, ethical, and cultural aspects into account in decision-making processes.		makes decisions related to the organization of production processes with awareness of their impact on the social environment, applicable standards, and organizational and cultural conditions		[SK3] Assessment of ability to organize work [SK5] Assessment of ability to solve problems that arise in practice		

Subject contents	Introduction			
	<ul style="list-style-type: none"><li>• Basic concepts related to production management</li><li>• Organization of information and material flow in production processes with elements of logistics management in production</li><li>• Production management concepts and current trends in production management</li></ul>			
	Product design and technology			
	<ul style="list-style-type: none"><li>• Input from the R&amp;D department: product design and bill of materials</li><li>• Input data from the technology department: technological operations, product labor consumption, list of machines</li><li>• Map of the manufacturing process. Cycle time of an employee, machine, product</li></ul>			
	Designing generation capacity taking into account seasonal demand			
	<ul style="list-style-type: none"><li>• Customer tact calculation</li><li>• Calculation of the number of employees, taking into account holidays and absenteeism</li></ul>			
	Production efficiency management			
	<ul style="list-style-type: none"><li>• Analysis of effectiveness and efficiency losses (OEE, Pareto losses)</li><li>• Fundamentals of maintenance management. Total Productive Maintenance</li></ul>			
	Production flexibility management. Techniques for increasing production flexibility			
	<ul style="list-style-type: none"><li>• Flexibility calculation (EPE) for job and process</li><li>• Rules for determining the minimum production lot (MOQ and EOQ)</li></ul>			
Prerequisites and co-requisites	Flow design			
	<ul style="list-style-type: none"><li>• Workforce Analysis and workload Balancing (Yamazumi)</li><li>• Principles of designing a production cell</li></ul>			
	Employee competency management			
	<ul style="list-style-type: none"><li>• Competency matrices, methods of assessing the complexity of competencies, planning an employee's development path</li><li>• Classification of work at the workstation</li><li>• Classification of work and levels of competence</li><li>• Verification of the employee's knowledge and skills</li><li>• Standardization of work</li><li>• Types of work standards and principles of building standards</li><li>• On-the-job training. Methods of instruction and principles of conducting instruction</li></ul>			
	Indicators (KPI) in production management			
	<ul style="list-style-type: none"><li>• Where do they come from and why are they important. How to obtain data for calculating indicators</li><li>• Visual performance management</li><li>• Designing the agenda of visual meetings</li><li>• Rules for monitoring losses at workstations</li></ul>			
	Environmental aspects in production			
	Assessment methods and criteria			
		Subject passing criteria	Passing threshold	Percentage of the final grade
Exam		60.0%	20.0%	
Project		60.0%	50.0%	
Quizzes and tasks		70.0%	30.0%	
Recommended reading	Basic literature	Goldratt E., Cox J.: Cel 1. Doskonałość w produkcji., Mint Books, 2008 Liker J.K.: Droga Toyoty. 14 zasad zarządzania wiodącej firmy produkcyjnej świata, MT Biznes, 2016 Czerska J., Pozwól płynąć swojemu produktowi, Placet, 2011		
	Supplementary literature	Parmenrer D. Kluczowe wskaźniki efektywności (KPI). Tworzenie, wdrażania i stosowanie. Wyd 3, One press, 2016		
	eResources addresses	Adresy na platformie eNauczanie:		
Example issues/ example questions/ tasks being completed	Designing the product according to the customer's requirements, designing the manufacturing process, managing the results of the production process; designing a production control system, taking into account inventory in the production process			
Work placement	Not applicable			

Document generated electronically. Does not require a seal or signature.