GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Production Management, PG_00068449		
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	Part-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	16.0	0.0	8.0	16.0	0.0	40

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	40	6.0	129.0	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_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
[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

<table>
<tr><td>Subject contents</td><td>Introduction

• Basic concepts related to production management
• Organization of information and material flow in production processes with elements of logistics management in production
• Production management concepts and current trends in production management

Product design and technology
• Input from the R&D department: product design and bill of materials
• Input data from the technology department: technological operations, product labor consumption, list of machines
• Map of the manufacturing process. Cycle time of an employee, machine, product
Designing generation capacity taking into account seasonal demand
• Customer tact calculation
• Calculation of the number of employees, taking into account holidays and absenteeism
Production efficiency management
• Analysis of effectiveness and efficiency losses (OEE, Pareto losses)
• Fundamentals of maintenance management. Total Productive Maintenance

Production flexibility management. Techniques for increasing production flexibility

• Flexibility calculation (EPE) for job and process
• Rules for determining the minimum production lot (MOQ and EOQ)
Flow design
• Workforce Analysis and workload Balancing (Yamazumi)
• Principles of designing a production cell
Employee competency management
• Competency matrices, methods of assessing the complexity of competencies, planning an employee's development path
• Classification of work at the workstation
• Classification of work and levels of competence
• Verification of the employee's knowledge and skills
• Standardization of work
• Types of work standards and principles of building standards
• On-the-job training. Methods of instruction and principles of conducting instruction
Indicators (KPI) in production management
• Where do they come from and why are they important. How to obtain data for calculating indicators
• Visual performance management
• Designing the agenda of visual meetings
• Rules for monitoring losses at workstations
Environmental aspects in production</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>Quizzes and tasks</td><td>70.0%</td><td>30.0%</td></tr>
<tr><td>Project</td><td>60.0%</td><td>50.0%</td></tr>
<tr><td>Exam</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>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</td></tr>
<tr><td>Supplementary literature</td><td>Parmenrer D. Kluczowe wskaźniki efektywności (KPI). Tworzenie, wdrażania i stosowanie. Wyd 3, One press, 2016</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
</table>
</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>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</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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