GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Production Engineering, PG_00068032		
Field of study			
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	4	ECTS credits	5.0
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	30.0	0.0	0.0	0.0	60

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	60	5.0	60.0	125

Subject objectives

Understanding the essence of production planning and control system at every level of operational activity and acquiring the ability to design solutions that ensure the efficient course of production process.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K01] is ready to fulfill professional roles responsibly, taking legal, ethical, and cultural aspects into account in decision-making processes.	is able to make informed decisions in production processes, taking into account organizational, social, and regulatory conditions	[SK5] Assessment of ability to solve problems that arise in practice
[K6_U02] communicates effectively with others by preparing presentations that use terminology specific to the field of engineering management, and by evaluating diverse opinions during discussions and debates.	is able to clearly present issues related to production processes using precise technical terminology and engage in constructive exchange of views with professionals from various engineering fields	[SU5] Assessment of ability to present the results of task
[K6_W03] knows reliable sources of information and utilizes advanced knowledge to explain contemporary management issues.	understands how to use reliable data and up-to-date technical and organizational knowledge to analyze and interpret challenges in modern production systems	[SW3] Assessment of knowledge contained in written work and projects

Subject contents

Production system and production process
Activities in production planning and control
Forecasting in demand planning
Capacity planning
Sales and operations planning S&OP
Master production schedule MPS. Sequence of tasks
Push and pull strategies.
Planning and control in MRPII/ERP, APS, MES systems
Balancing production (OPF) in JiT systems, heijunka. Kanban system, supermarket
Production control according to the Theory of Constraints, DBR method.

Prerequisites and co-requisites

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>exam</td><td>60.0%</td><td>50.0%</td></tr>
<tr><td>Test</td><td>60.0%</td><td>25.0%</td></tr>
<tr><td>Reports</td><td>60.0%</td><td>25.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Brzeziński, M. (2002). Organizacja i sterowanie produkcją, Warszawa: Placet.
Waters, D. (2021). Zarządzanie operacyjne. Towary i usługi, Warszawa: Wydawnictwo Naukowe PWN.
Bozarth C., Handfield R..(2021). Wprowadzenie do zarządzania operacjami I łańcuchem dostaw. Helion</td></tr>
<tr><td>Supplementary literature</td><td>Balle, F., Balle, M. (2023). Kopalnia złota, Wrocław
Goldratt, M. Cox, J. (2023). Cel. Doskonałość w produkcji, Mint Books
Pająk, E (2021). Zarządzanie produkcją, Warszawa: Wydawnictwo Naukowe PWN..
The Productivity Press Development Team.(2010). Kanban na hali produkcyjnej, Prod.Publishing,</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">Sales and operations planning S&OP
Characteristics of the werbel-buffer-rope method</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
</table>

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