GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Production Engineering, PG_00044280		
Field of study	Engineering Management		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2022/2023
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	4.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Faculty of Management and Economics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Jolanta Łopatowska	
	Teachers	dr inż. Jolanta Łopatowska	

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	8.0	32.0	100

Subject objectives

The aim of the course is to understand the essence of planning and control at every level of operations activity and the acquisition of skills to ensure effective realization of production process.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W10] has the knowledge of the life cycle of the production system and the product	Identifies the components of the production system. Decomposes production system.	[SW3] Assessment of knowledge contained in written work and projects
[K6_W12] has a basic knowledge of production management and occupational safety and ergonomics management, as well as information technologies necessary for engineering management	Knows the activities carried out in the production planning and control process and solutions supporting them.	[SW3] Assessment of knowledge contained in written work and projects
[K6_U11] can plan and control production and production quality, including the identification and formulation of specifications for simple engineering tasks	Uses the main methods of production planning and control.	[SU4] Assessment of ability to use methods and tools

Subject contents

Production system and production process.
Decomposition of the production system.
Actions in production planning and control.
Forecasting in demand planning.
Production capacity planning.
Sales and Operations Planning S&OP.
Master Production Scheduling. Rough-cut capacity planning. Tasks scheduling.
Push and pul conceptions.
Planning and control in MRP/ERP/APS/MES systems.
Production balancing and leveling in JiT systems, heijunka. Kanabn system, supermarket.
Production control according to the Theory of Constraints, DBR method.
CONWIP and POLCA systems.
Production planning in IMS systems.
Classical methods of production control.

Prerequisites and co-requisites

production management

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Colloquium	60.0%	25.0%
	Reports	60.0%	25.0%
	Exam	60.0%	50.0%
Recommended reading	Basic literature	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.	
	Supplementary literature	Goldratt, M. Cox, J.(2008). Cel. Doskonałość w produkcji, Mint Books Pająk, E (2021). Zarządzanie produkcją, Warszawa: Wydawnictwo Naukowe PWN.. Pająk, E., Klimkiewicz, M., Kosieradzka, A. (2014). Zarządzanie produkcją i usługami, Warszawa: Wydawnictwo Naukowe PWE. The Productivity Press Development Team.(2010). Kanban na hali produkcyjnej, Prod.Publishing, Balle, F., Balle, M.(2013). Kopalnia złota, Wrocław: Lean Enterprise Institute.	
	eResources addresses	Adresy na platformie eNauczanie: Inżynieria produkcji stac. 2022/2023 - Moodle ID: 26764 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26764	
Example issues/ example questions/ tasks being completed	Methods for construction of Sales and Operations Plans (S&OP) Characteristic of method drum-buffer-rope		
Work placement	Not applicable		