



Subject card

Subject name and code	Production Engineering, PG_00044280						
Field of study	Engineering Management						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2021/2022		
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	Katedra Inżynierii Zarządzania i Jakości -> 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 Adresy na platformie eNauczanie: Inżynieria produkcji stac. 2021/2022 - Moodle ID: 17182 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17182						
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 production planning and control at every level of operations activity and the acquisition the ability to apply production planning and control methods in production systems.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[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		
	[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		
Subject contents	Production system and production process. Decomposition of the production system. Parameters of the production process. Actions in production planning and control. Forecasting in demand planning. Production capacity planning. Strategies of capacity and demand adapting. Sales and Operations Planning S&OP. The Master Production Scheduling. Rough-cut capacity planning. Tasks scheduling. Planning and control synchronization in supply chain, push and pull conceptions. Planning and control in MRP systems. Planning and control in MRPII/ERP, APS, MES systems. Production balancing (OPF) and leveling in JiT systems, heijunka. Elements in kanban cycle, supermarket. CONWIP and POLCA systems. Production control according to the Theory of Constraints. Classical methods of production control. Production planning in IMS systems.						

Prerequisites and co-requisites	production management		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Reports	50.0%	25.0%
	Written exam	60.0%	50.0%
	Midterm colloquia	60.0%	25.0%
Recommended reading	Basic literature	Brzeziński M.: Organizacja i sterowanie produkcją. Placet, Warszawa 2002 Waters D.: Zarządzanie operacyjne. Towary i usługi. PWN, Warszawa 2021, Bozarth C., Handfield R.: Wprowadzenie do zarządzania operacjami i łańcuchem dostaw, Helion 2021, Brzeziński M.: Organizacja produkcji w przedsiębiorstwie, Difin, 2013	
	Supplementary literature	Goldratt M. Cox J.: Cel. Doskonałość w produkcji, Mint Books 2008 Pasternak K.: Zarys zarządzania produkcją, PWE 2005 Pająk E.: Zarządzanie produkcją, PWN 2006, The Productivity Press Development Team: Kanban na hali produkcyjnej. Prod.Publishing, 2010	
	eResources addresses	Uzupełniające Inżynieria produkcji stac. 2021/2022 - Moodle ID: 17182 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17182	
Example issues/ example questions/ tasks being completed	Methods for construction of Sales and Operations Plans (S&OP) Characteristics of method drum-buffer-ropo		
Work placement	Not applicable		