



## Subject card

Subject name and code	PRODUCTION MANAGEMENT, PG_00061397						
Field of study	Engineering Management						
Date of commencement of studies	October 2023	Academic year of realisation of subject			2024/2025		
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			5.0		
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. Elwira Brodnicka				
	Teachers		dr inż. Elwira Brodnicka				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	16.0	0.0	0.0	16.0	0.0	32
	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	32		7.0		86.0	125
Subject objectives	Analyzes production processes, conducting their multidimensional critical assessment in preparation for the implementation of innovative improvement activities						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W03] identifies reliable sources of information relevant to the analyzed issues		correctly interprets all components of the production process, preparing a set of reliable information needed for its analysis, improvement and design as well as making responsible operational decisions		[SW1] Assessment of factual knowledge		
	[K6_U05] designs innovative solutions for complex management processes, using appropriate methods and techniques		designs innovative solutions for production processes, taking into account technological, economic and environmental factors as well as customer needs		[SU1] Assessment of task fulfilment		

Subject contents	<p>Introduction</p> <p>Basic concepts related to production management</p> <p>Organization of information and material flow in production processes with elements of logistics management in production</p> <p>Production management concepts and current trends in production management</p> <p>Product design and technology</p> <p>Input from the R&amp;D department: product design and bill of materials</p> <p>Input data from the technology department: technological operations, product labor consumption, list of machines</p> <p>Map of the manufacturing process. Cycle time of an employee, machine, product</p> <p>Designing generation capacity taking into account seasonal demand</p> <p>Customer fact calculation</p> <p>Calculation of the number of employees, taking into account holidays and absenteeism</p> <p>Production efficiency management</p> <p>Fundamentals of maintenance management. Total Productive Maintenance</p> <p>Analysis of effectiveness and efficiency losses (OEE, Pareto losses)</p> <p>Production flexibility management. Techniques for increasing production flexibility</p> <p>Flexibility calculation (EPE) for job and process</p> <p>Rules for determining the minimum production lot (MOQ and EOQ)</p> <p>Flow design</p> <p>Workforce Analysis and Load Balancing (Yamazumi)</p> <p>Principles of designing a production cell</p> <p>Employee competency management</p> <p>Competency matrices, methods of assessing the complexity of competencies, planning an employee's development path</p> <p>Classification of work at the workstation</p> <p>Classification of work and levels of competence</p> <p>Verification of the employee's knowledge and skills</p> <p>Standardization of work</p> <p>Types of work standards and principles of building standards</p> <p>On-the-job training. Methods of instruction and principles of conducting instruction</p> <p>Indicators (KPI) in production management</p> <p>Where do they come from and why are they important. How to obtain data for calculating indicators</p> <p>Visual performance management</p> <p>Designing the agenda of visual meetings</p> <p>Rules for monitoring losses at workstations</p> <p>Environmental aspects in production</p>														
Prerequisites and co-requisites															
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="451 1021 798 1057">Subject passing criteria</th> <th data-bbox="805 1021 1141 1057">Passing threshold</th> <th data-bbox="1149 1021 1477 1057">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="451 1061 798 1093">Exam</td> <td data-bbox="805 1061 1141 1093">60.0%</td> <td data-bbox="1149 1061 1477 1093">20.0%</td> </tr> <tr> <td data-bbox="451 1097 798 1128">Project</td> <td data-bbox="805 1097 1141 1128">60.0%</td> <td data-bbox="1149 1097 1477 1128">50.0%</td> </tr> <tr> <td data-bbox="451 1133 798 1164">Quizzes and tasks</td> <td data-bbox="805 1133 1141 1164">70.0%</td> <td data-bbox="1149 1133 1477 1164">30.0%</td> </tr> </tbody> </table>			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%
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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: Zarządzanie produkcją NST 2024/2025 EB - Moodle ID: 39012 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=39012">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=39012</a>													
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														

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