



Subject card

Subject name and code	Management of production and service, PG_00039959						
Field of study	Management and Production Engineering, Management and Production Engineering						
Date of commencement of studies	October 2020		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	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		4.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department of Manufacturing and Production Engineering -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Mieczysław Siemiątkowski				
	Teachers		dr inż. Sławomir Szymański				
			dr inż. Mieczysław Siemiątkowski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	15.0	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		7.0		33.0	100
Subject objectives	The selected program of lectures and exercises and project have to equip students with the necessary basic knowledge of the range of models' applications for production management at the tactical and operational level, of issues related to the planning of range-quantitatively, also the planning of resources in terms of demand-dependent and independent up to the issues related to the maintenance of the park machine aimed to evaluate and improve the effectiveness of machinery and equipment.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	K6_W08	On the basis of the performed case analysis, the student is able to identify the factors conditioning the effective management of quality, stability and repeatability of production processes.	[SW1] Assessment of factual knowledge [SW3] Assessment of knowledge contained in written work and projects
	K6_U09	The student uses the available computer tools. Can select software, methods of analysis for optimization and control in the process of solving selected problems in the area of production engineering.	[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools
	K6_U03	The student formulates opinions, draws conclusions, presents the content using the industry vocabulary of the area of management and production engineering.	[SU2] Assessment of ability to analyse information [SU5] Assessment of ability to present the results of task
	K6_W10	The student is able to choose and apply the right method and tools to solve a complex project task related to economic analysis and financial control project implementation.	[SW1] Assessment of factual knowledge
	K6_K03	The student uses knowledge obtained under different modules to be assessed non-technical effects engineering activities i adopts attitudes responsible.	[SK5] Assessment of ability to solve problems that arise in practice
Subject contents	<p>The program of lectures. Essence of production management and services. Product and its design, quality, reliability, design, forecasting demand. The concept of the production system. The structure, forms of organization and management systems. The process of manufacturing, distribution, manufacture, production flow control (simulation and analytic methods). Design of production systems, production control and programming services. Material Requirements Planning (MRP) and Manufacturing Resource Planning (MRP II). Synchronization of material flow by the JIT concept. Flow control of production (kanban system), cost-effective production (LP), the management of cross-sections bottleneck (OPT) and human resources. Computer-aided management production and services.</p> <p>Exercise program 1st . Planning of the production cycle. 2nd Design and optimization of production streamlining. 3rd Application of Kanban production control system. 4th Materials resource planning. 5th Indicator of Overall Effectiveness Equipment. 6th Optimization of the production company - linear and aggregate programming models. 7th Planning projects using networking methods.</p> <p>Design of the selected process or product.</p>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	60.0%	40.0%
	Practical exercise	60.0%	20.0%
	Written exam	60.0%	40.0%

Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. Durlik I.: Inżynieria zarządzania. cz I i II, Agencja Wydawnicza PLACET, Warszawa 2001. 2. Muhlemann A.P. i inni: Zarządzanie. Produkcja i usługi. PWN, Warszawa 2001. 3. Koźmiński A., Piotrowski A.: Zarządzanie - teoria i praktyka. PWN, Warszawa 2001 4. Brzeziński M.: Organizacja i sterowanie produkcją, Placet, Warszawa 2002 5. Lis. S.: Organizacja i ekonomika procesów produkcyjnych w przemyśle maszynowym, PWN, Warszawa 1984 6. Orlicky J.: Planowanie potrzeb materiałowych, PWE, Warszawa 1995 7. Sarjusz-Wolski Z.: Sterowanie zapasami w przedsiębiorstwie, PWE, Warszawa 2000 8. Waters D.: Zarządzanie operacyjne, Wyd.Nauk. PWN, Warszawa 2001 9. Moden Y.: Toyota Production System, Industrial Engineering and Management Press, Norcross, USA, 1983 10. Ohna T.: Kanban - Just-in-time at Toyota. Management Begins at the Workplace, Japan Management Association - Productivity Press, Cambridge 1989 11. Hopp W.J., Spearman M.L.: Factory Physics: Foundations of Manufacturing Management, Irwin/McGraw-Hill, New York 2001 12. Nakajima S.: Introduction to TPM - Total Productive Maintenance, Asian Productivity Organisation, Tokyo 1990 13. Takahashi Y., Osada T.: TPM - Total Productive Maintenance, Productivity Press, Cambridge 1988 14. Hamrol, Mantura: Zarządzanie jakością. Teoria i praktyka, PWN, Warszawa 2004 15. Chlebus E.: Techniki komputerowe CAX w inżynierii produkcji, WNT, Warszawa 2001
	Supplementary literature	Given during the course.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	1st . Planning of the production cycle. 2nd Design and optimization of production streamlining. 3rd Application of Kanban production control system. 4th Materials resource planning. 5th Indicator of Overall Effectiveness Equipment. 6th Optimization of the production company - linear and aggregate programming models. 7th Planning projects using networking methods.	
Work placement	Not applicable	