GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	PRODUCTION AND QUALITY MANAGEMENT, PG_00061101		
Field of study	Management		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2025/2026
Education level	second-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	1	Language of instruction	English
Semester of study	1	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	dr inż. Ewa Marjańska	
	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	10.0	55.0	125

Subject objectives

Explains the rules for the implementation of production processes in the context of ensuring their efficiency and quality

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_W01] "demonstrates in-depth knowledge and understanding of contemporary management problems, and selects methods for resolving them while taking into account the complex interrelationships among the phenomena being analyzed.	correctly identifies production management processes, taking into account the context of quality assurance, selecting the appropriate management concept	[SW1] Assessment of factual knowledge
[K7_U02] presents logical and well-founded arguments regarding obtained results through the analysis and synthesis of information in various business contexts, critically evaluating their interpretation.	critically evaluates the results of process analysis by synthesizing information from various contexts of their functioning	[SU2] Assessment of ability to analyse information

Subject contents	**Production management** Introduction to production management Historical view. Trends Operational strategy as a competitive tool Objectives and measures of operational activities. Productivity The structure of the production system. Structure, types and forms of organization of production Methodology of designing production systems Organization of the production process Continuous improvement and reengineering of processes Production planning and control Demand forecasting Coordination of demand and production Supplies management Material Requirements Planning (MRP) method Changing the principles of production management in the conditions of using information technology: MRP II, CIM and BPR The concept of JIT and Lean Manufacturing Kanban flow control system Human resource management in production systems **Quality management** LECTURE Quality definitions Development of quality management Quality of products and services Quality determinants and their level of importance CSI and ESI index; QFD method and quality house Tools of the classic seven of quality New quality seven tools Normalization on the example of ISO 9000 ISO 14000 Environmental Management System; ISO 18000; HACCP and ISO 22000 Quality management concepts by E. Deming, J. Juran, Ph. Crosby Models of Excellence Quality costs TUTORIAL Identification of features of products and services Examples of quality determinants in products and services Calculation of the level of customer and employee satisfaction using the CSI and ESI indexes Quality cottage construction Use of cause and effect tools The use of the tools of the classic seven of quality The use of tools of the new quality seven Group problem solving methods Creating a quality policy Quality documents in standardization Environmental policy Statistical methods in quality Control cards Calculation of the Cp and Cpk indices Deming's quality theses; Juran and Crosby Excellence Model Criteria Calculation of quality costs
Prerequisites and co-requisites	

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Project	80.0%	20.0%
Final exam	60.0%	40.0%
Extra tasks	60.0%	20.0%
Obligatory tasks	60.0%	20.0%

Recommended reading

Basic literature	Ingason, H. T. (2020). *Quality Management: A Project Management Perspective*. Routledge. Waters D.: Zarządzanie operacyjne. PWN, 2001 Durlik I.: Inżynieria zarządzania. Strategia i projektowanie systemów produkcyjnych, część I i II, Placet, Warszawa 1995 i 1996 Dahlgaard J., Kristensen K., Kanji G., Podstawy zarządzania jakością, Wyd. PWN, Warszawa 2002 Lock D., Podręcznik zarządzania jakością, Wyd. PWN, Warszawa 2002 Łuczak J., Matuszak- Flejszman A., Metody i techniki zarządzania jakością. Kompendium wiedzy Wyd. Quality Progress Poznań 2007
Supplementary literature	Jasiński Z.: Podstawy zarządzania operacyjnego, Oficyna Ekonomiczna, Kraków, 2005 Muhlemann A.P., Oakland J.S., Lockyer K.G.: Zarządzanie. Produkcja i usługi. PWN Warszawa 1995 Krajewski L.J., Ritzman L.P.: Operations Management: Strategy and Analysis. 4th Edidion, Addison-Wesley Publishing Company, 1996 Hamrol A., Zarządzanie jakością z przykładami, Wyd PWN, Warszawa 2005; Urbaniak M., Zarządzanie jakością. Teoria i praktyka, Wyd. Difin, Warszawa 2005

	eResources addresses	
Example issues/ example questions/ tasks being completed	Operational strategy as a competitive tool Prioritize competing in quality, productivity and time The main objectives and criteria for evaluating enterprises Structure, types and forms of organization of production Organization of the production proces Continuous improvement and reengineering of processes Coordination of demand and production	
Work placement	Not applicable	

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