



Subject card

Subject name and code	PRODUCTION AND QUALITY MANAGEMENT, PG_00061101						
Field of study	Management						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2026/2027		
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 -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Ewa Marjańska				
	Teachers		dr inż. Ewa Marjańska				
Lesson types	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	to prepare students to apply methods and tools of production and quality management, based on knowledge of production management processes and quality systems, and to develop attitudes of responsibility and critical reflection towards continuous improvement in the context of complex business challenges.						
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.		knows and understands production management processes and quality assurance concepts, including contemporary trends and methods, in the context of selecting appropriate management approaches and models to improve processes results.		[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 production process analysis by synthesizing information from various contexts of their functioning and is able to propose appropriate improvement solutions using relevant quality management tools.		[SU2] Assessment of ability to analyse information		

Subject contents	Course content – lecture 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		
	Course content – exercises 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
	Team project	60.0%	40.0%
	Open-ended test with case questions	60.0%	40.0%
	Teamwork	60.0%	20.0%
Recommended reading	Basic literature	Ingason, H. T. (2020). <i>Quality Management: A Project Management Perspective</i> . 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 Dahlggaard 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 Edition, 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 process Continuous improvement and reengineering of processes Coordination of demand and production	
Practical activities within the subject	Not applicable	

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