GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Management Systems, PG_00038338		
Field of study	Automation, Robotics and Control Systems		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2023/2024
Education level	second-cycle studies	Subject group	Obligatory subject group 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	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Control Engineering -> Faculty of Electrical and Control Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Adam Kielak	
	Teachers	dr inż. Adam Kielak	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	10.0	0.0	0.0	0.0	10.0	20

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	20	4.0	26.0	50

Subject objectives

Acquiring knowledge concerning more important management systems used in industrial practice: the quality management, environment management, safety management and project management.

Learning outcomes

Course outcome	Subject outcome	Method of verification
K7_W07	Student has knowledge concerning safety management of technical installations and information protection. He/she understands significance the quality and environmental management systems, and a need to design integrated management systems.	[SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge
K7_U09	Student understand significance of the management systems in reliable, safe and economic operation of technical systems regarding functions of industrial automation and control system (IACS). He/she is able to assess the risk of potential losses, including economic losses for accident scenarios considered.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject
K7_K05	Student understands importance the knowledge and innovation management based on the Industry 4.0 concept.	[SK5] Assessment of ability to solve problems that arise in practice [SK1] Assessment of group work skills [SK4] Assessment of communication skills, including language correctness
K7_U02	Student understand importance a group work and using various information sources and interdisciplinary knowledge management. He/she is able to assess risk of solving design problem on time.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject

Subject contents	Aims and practical aspects of quality management system complies with the requirements of ISO 9001. Requirements for quality and safety in the design of control systems. Environmental management system complied with the requirements of ISO 14001 and EMAS Regulation - European Eco-Management and Audit. Safety Management Systems Occupational Health and PN-N 18001. Measures aimed towards the integration of management systems in the enterprise: developing a strategy that recognizes the subsystems, development of policies that contains aspects of quality, environment and safety. The issue of developing an integrated management system (IMS) in the company, including responsibility, authority and communication system, the development of documentation including policies, procedures, instructions, records and means of supervision. Basics of project management. Planning, scheduling, milestones, tasks, implementation and control tasks needed to achieve the objectives of the project. Factors related to the project: the project scope, execution time, the cost of the project (budget), quality and risk, and their formation. Evolution of management systems.
Prerequisites and co-requisites	Basic knowledge of organization management

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
colloquium	60.0%	50.0%
seminar presentation	60.0%	50.0%

Recommended reading

Basic literature	1. Mingus N.: Project management. 2nd edition, OnePress, November 2009. 2. Urbaniak M.: Quality, environment and safety management in industry. Difin, Warsaw 2007
Supplementary literature	1 .Hamrol A., Mantura W.: Quality management - theory and practice. PWN, Warsaw 2005. 2. Janasz W. (red.). Industrial economy basics. PWN, Warsaw 1997. 3. Januszewski A.: Electronic management systems functionality. Tom 1: Integrated transaction systems. PWN/MIKOM 2008. 4. Karczewski J.T.: Work safety management system. ODDK, Gdańsk 2000. 5. Kosmowski K.T.: Functional safety management in critical systems, Gdańsk, 2008. 6.Łobejko S.: Information systems in knowledge and innovation management in company. SGH, Warszawa 2005. 7.Rogowski W.: Investment efficiency calculation. Kraków 2004.
eResources addresses	Adresy na platformie eNauczanie: SYSTEMY ZARZĄDZANIA [Niestacjonarne][2023/24] - Moodle ID: 26758 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26758

Example issues/ example questions/ tasks being completed	Process oriented quality management. Environmental management in the context of EMAS system. Information security management. Safety management at work. Project management. Integrated management system.
Work placement	Not applicable