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 2026	Academic year of realisation of subject	2027/2028
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 -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Kazimierz Kosmowski	
	Teachers		

Lesson types

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_K02] can interact and work in a group assuming various roles and identify priorities for the achievement of a specific task		
[K7_U04] has the ability for self-directed learning in order to improve his/her professional qualifications, and is able to identify directions for further learning		
[K7_K05] can think and act in an entrepreneurial way	Student understands importance the knowledge and innovation management based on the Industry 4.0 concept.	[SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness

Subject contents

Course content – lecture
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

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>colloquium</td><td>60.0%</td><td>50.0%</td></tr>
<tr><td>seminar presentation</td><td>60.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>1. Mingus N.: Project management. 2nd edition, OnePress, November 2009.

2. Urbaniak M.: Quality, environment and safety management in industry. Difin, Warsaw 2007</td></tr>
<tr><td>Supplementary literature</td><td>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.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">Process oriented quality management.

Environmental management in the context of EMAS system.

Information security management.

Safety management at work.

Project management.

Integrated management system.</td></tr>
<tr><td>Practical activites within the subject</td><td colspan="2">Not applicable</td></tr>
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