GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	ENVIRONMENTAL MANAGEMENT SYSTEMS - TEAM PROJECT, PG_00070683						
Field of study							
Date of commencement of studies	October 2026		Academic year of realisation of subject	2027/2028			
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	2		Language of instruction	English			
Semester of study	4		ECTS credits	6.0			
Learning profile	general academic profile		Assessment form	assessment			
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 hab. inż. Piotr Grudowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	25.0	20.0	0.0	75
	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	75		3.0	72.0		150
Subject objectives	Preparation of students to design, implement, and improve environmental management systems within an organization, based on knowledge of the conditions influencing system functioning and the relationships between environmental processes, while fostering legal, ethical, and social responsibility in teamwork when making managerial decisions.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U03] collaborates with others in solving interdisciplinary problems.	Is able to demonstrate professional and effective teamwork by designing elements of an environmental management system (including identification of environmental aspects, assessment of their significance, definition of objectives and indicators, development of an internal audit plan and improvement actions), applying the requirements of ISO environmental standards and environmental risk analysis methods.	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
	[K6_K02] is prepared to make competent and ethical decisions to create and maintain economic, social, and environmental values, demonstrating entrepreneurial actions.	is ready to make socially responsible decisions in designing an environmental management system, taking into account legal and ethical considerations as well as sustainable development goals, particularly through active participation in the project team, self-assessment, and peer evaluation.	[SK1] Assessment of group work skills [SK3] Assessment of ability to organize work
	[K6_W01] understands and comprehends the conditions of processes occurring in the analyzed systems at an advanced level and selects appropriate methods for their solution, taking into account the complex relationships between the analyzed phenomena.	knows and understands the conditions affecting the functioning of environmental management systems and the relationships between the organizational context, environmental aspects, environmental risk, and environmental objectives, in the context of designing and auditing an environmental management system in accordance with the requirements of PN-EN ISO 14001 and EMAS.	[SW3] Assessment of knowledge contained in written work and projects

Subject contents

Course content – lecture

1. Basic concepts and terminology in the field of management and environmental protection. Origins and foundations of sustainable economic development
2. UN Sustainable Development Goals (SDGs). Environmental management models, elements, relationships
3. History and review of the concept of a systemic approach to environmental management
4. Environmental management system compliant with PN-EN ISO 14001. Genesis. Structure of type HLS of ISO Type A standards
5. The context of the organization. Leadership
6. Planning. Support
7. Operations
8. Performance evaluation
9. Improvement
10. Implementation of an environmental management system according to ISO 14001
11. EMS audits. EMS Certification
12. Other standards for EMS in the ISO 14000 family. Management system compliant with the EMAS Regulation
13. Energy management system compliant with EN ISO 50001
14. Benefits of EMS. Life Cycle Assessment (LCA), creation of an eco-balance, factors and sources of information obtained
15. EMS in integrated management systems

Course content – laboratory

1. Basic concepts and terminology in the field of management and environmental protection. Origins and foundations of sustainable economic development
2. UN Sustainable Development Goals (SDGs). Environmental management models, elements, relationships
3. History and review of the concept of a systemic approach to environmental management
4. Environmental management system compliant with PN-EN ISO 14001. Genesis. Structure of type HLS of ISO Type A standards
5. The context of the organization. Leadership
6. Planning. Support
7. Operations
8. Performance evaluation
9. Improvement
10. Implementation of an environmental management system according to ISO 14001
11. EMS audits. EMS Certification
12. Other standards for EMS in the ISO 14000 family. Management system compliant with the EMAS Regulation
13. Energy management system compliant with EN ISO 50001
14. Benefits of EMS. Life Cycle Assessment (LCA), creation of an eco-balance, factors and sources of information obtained
15. EMS in integrated management systems

Course content – project

1. Sustainable development in the context of pro-ecological activities of a selected company. Identification of the achievements of selected organizations in areas corresponding to the pro-ecological objectives of the UN regarding the UA. Use of ISO 26000
2. Design of EMS components according to ISO 14001 for the selected organization for the nst elements of the EMS: Environmental aspects; Risk assessment. Significant environmental aspects; Objectives and tasks in the field of the Environment; Operational management and performance evaluation; Improvement in the context of the World Improvement Environment
3. Planning and conducting an internal audit of the EMS for a selected organization and designing improvement activities (follow-ups): development of an audit plan; preparation of a checklist for relevant EMS areas; reporting non-conformities and identifying improvement actions

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Evaluation of the quality of the project defense.	60.0%	20.0%
Assessment of engagement and responsibility at work based on observation, self-evaluation, and peer review.	60.0%	10.0%
Test composed of open and problem-solving questions based on a case study of an enterprise (written exam).	60.0%	40.0%
Assessment of the team project of the environmental management system.	60.0%	30.0%

Recommended reading

Basic literature

1. Grudowski P., Hamrol A., Zymonik Z. Zarządzanie jakością i bezpieczeństwem, PWE Warszawa 2013
2. Grudowski P., Wiśniewska M. Z., Kultura jakości, doskonałości i bezpieczeństwa, CeDeWu, Warszawa 2019
3. Kowal E., Kucińska-Landwójtowicz A., Misiołek A., Zarządzanie środowiskowe, PWE, Warszawa, 2013

	Supplementary literature	1. Grudowski P., Jakość, środowisko i BHP w systemach zarządzania, OPO-AJG, 2004 2. Grudowski P., Pochyluk R., Szymański J., Zasady wdrażania systemu zarządzania środowiskowego zgodnego z wymaganiami normy ISO 14001, Eko-Konsult, 1999
	eResources addresses	
Example issues/ example questions/ tasks being completed	Design of elements of the Environmental Management System (EMS) according to the ISO 14001 standard for a selected organization	
Practical activites within the subject	Not applicable	

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