GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Work safety and ergonomics, PG_00055045		
Field of study	Management and Production Engineering		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2021/2022
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Humanistic-social subject group
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Institute of Manufacturing and Materials Technology -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Sławomir Szymański	
	Teachers	dr inż. Sławomir Szymański	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	0.0	15

E-learning hours included: 0.0

Adresy na platformie eNauczanie:

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	15	1.0	9.0	25

Subject objectives

Acquisition of basic knowledge in the field of ergonomics and its principles as well as the relationship between ergonomics and occupational health and safety. Acquiring knowledge about the factors and threats occurring in the work environment and ways of their elimination or reduction Acquiring knowledge of threats and methods of safety assessment in the workplace Ability to assess the risk for any workplace Ability to prepare a safety management plan in the workplace

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W08] has basic management knowledge, including process and product quality management, and detailed knowledge of integrated and standardized quality, environmental, health and safety management systems	the student knows the legal status that regulates the responsibility of entities for environmental risk dimension work with hazardous factors and harmful to employees	[SW1] Assessment of factual knowledge
[K6_K03] is aware of the social role of a graduate of a technical university, understands the importance of non-technical aspects and effects of engineering activities including their impact on the environment and responsibility for decisions, sees the need to formulate and provide the public with information and opinions on the achievements of technology, correctly identifies and resolves dilemmas associated with thejob of an engineer	Shows openness to new aspects and readiness to change opinions in the light of the available data. He knows the connections between threats to the working environment and nature.	[SK5] Assessment of ability to solve problems that arise in practice
[K6_W10] has basic knowledge necessary to understand the economic determinants of engineering activities and economic law, to improve the work environment affecting productivity, costs and quality of work	The student has knowledge of safety and legal standards the student has knowledge of risk assessment and safety in the position The student knows how develop a safety plan	[SW1] Assessment of factual knowledge
[K6_U06] when formulating and solving engineering tasks a student can see aspects of system management and organization of individual and as a team, taking into account the human factor, has necessary peparation for work in an industrial environment, and knows the rules and standards related to occupational health and safety	The student is able to assess the threats at the workplace. Student is able to assess the degree of risk on the workplace. The student knows how apply legal norms to creating jobs.	[SU1] Assessment of task fulfilment

Subject contents

Legal and normative foundations for industrial safety management. Functional and occupational safety. Human error and its consequences in technology and industry. Principles of maintaining safety at work. Methods of occupational risk assessment in industry: methods according to PN-N-18000: three-stage and five-stage, the Risk Score method, accident risk assessment procedures. Development of a safety plan in an industrial enterprise. Safety management and quality management in an enterprise. Building a work safety management system in an enterprise. Organizational methods of increasing safety in an enterprise. Basics of ergonomics. Information processes in the human-machine system. Work productivity. Physical, mental and nervous loads. Team work and personal and social styles. Anthropometry. Material working environment. Dangerous and harmful factors in the work environment. Prevention of risks. Legal basis of labor protection.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
test	60.0%	100.0%

Recommended reading

Basic literature

1. Lis T., Nowacki K.: Zarządzanie bezpieczeństwem w zakładzie przemysłowym, Wydawnictwo Politechniki Gliwickiej, Gliwice 20052.

2.Karczewski J.T.: Systemy zarządzania bezpieczeństwem pracy. ODDK Gdańsk 20013. Wykowska M., Ergonomia. Dokument elektroniczny: Skrypt"Ergonomia" (dostęp online).

	Supplementary literature	1. Korzeniowski L F. Podstawy nauk o bezpieczeństwie. Zarządzaniebezpieczeństwem, Wyd. Difin, Warszawa 20122. Uzarczyk A., 2. Czynniki szkodliwe i uciążliwe w środowisku pracy.ODDK, Gdańsk 2006.
	eResources addresses	
Example issues/ example questions/ tasks being completed	1. Determine the occupational risk using the Risk score method for the selected workplace (e.g. milling machine operator) 2. List the threats at the selected workplace (e.g. welder's position) 3. List and characterize the basic methods of risk assessment in the position. 4. List and characterize the sources of threats in a selected industry or in a selected process.	
Work placement	Not applicable	