



## Subject card

Subject name and code	Ergonomics and Industrial Safety, PG_00003157						
Field of study	Automation, Robotics and Control Systems						
Date of commencement of studies	October 2020	Academic year of realisation of subject				2023/2024	
Education level	first-cycle studies	Subject group				Obligatory subject group in the field of study	
Mode of study	Full-time studies	Mode of delivery				at the university	
Year of study	4	Language of instruction				Polish	
Semester of study	7	ECTS credits				1.0	
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						
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						
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		2.0		8.0	25
Subject objectives	Introducing to current knowledge concerning basic issues of ergonomics and safety at work						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	K6_U06						
	K6_W11						
Subject contents	<p>Selected psychophysical aspects of human work. Theoretical basics of ergonomics in design of man-machine interface and operator-computer system. Designing of the work stands. Integrated management of production systems with regard to rules of ergonomics. Hazards, risks and protections on the work stands. Functional safety of the control and protection systems of machines and on the work stands. Accidents in the industry and causes. Statistics of accidents in the industry and other sectors of economy. Harmfulness factors in working environment. Technical safety in the process and energy industry. Risk assessment of the work stands.</p> <p>Code of work in Poland. Health and safety management system. Audit of health and safety management system. Meaning of safety culture in an organisation. National and international institutions dealing with issues of health and safety at work.</p>						
Prerequisites and co-requisites	Knowledge concerning the psychology at the work place. Knowledge of technological processes and hazards at work stands. Designing of functional safety solutions in technical systems.						
Assessment methods and criteria	Subject passing criteria		Passing threshold			Percentage of the final grade	
	Technical paper		60.0%			50.0%	
	Test		60.0%			50.0%	
Recommended reading	Basic literature		<ol style="list-style-type: none"> <li>1. Training materials of Central Institut of Labor Protection - State Research Institute in Warsaw, <a href="http://www.ciop.pl">http://www.ciop.pl</a>.</li> <li>2. Information and training materials of the European Agency for Safety and Health at Work), <a href="http://osha.europa.eu">http://osha.europa.eu</a>.</li> </ol>				

	Supplementary literature	<ol style="list-style-type: none"> <li>1. Karczewski J.T.: System zarządzania bezpieczeństwem pracy (Management system of safety at work) . Ośrodek Doradztwa i Szkolenia Kadr, ODDK, Gdańsk 2000.</li> <li>2. Karwowski W.: Projektowanie i zarządzanie zintegrowanymi systemami wytwarzania z wykorzystaniem ergonomii (Design and management of integrated manufacturing systems using ergonomics). CIOP PIB, Warszawa 2008.</li> <li>3. Kosmowski K.T. (Ed.): Basics of functional safety basics. Gdańsk University of Technology Publishers, Gdańsk 2015-2020 (III edition).</li> </ol>
	eResources addresses	
Example issues/ example questions/ tasks being completed	<p>Work, human competences and importance of ergonomics</p> <p>Anthropometrical and biomechanical factors, designing of anthropotechnical systems</p> <p>Work safety issues in hazardous industry</p> <p>Human factors and designing man-machine and human-system interfaces</p>	
Work placement	Not applicable	