



## Subject card

Subject name and code	Technical Ergonomics, PG_00044769						
Field of study	Engineering Management						
Date of commencement of studies	October 2020		Academic year of realisation of subject			2022/2023	
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	3		Language of instruction			Polish	
Semester of study	5		ECTS credits			4.0	
Learning profile	general academic profile		Assessment form			exam	
Conducting unit	Department of Informatics in Management -> Faculty of Management and Economics						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Marcin Sikorski				
	Teachers		prof. dr hab. inż. Marcin Sikorski  mgr inż. Jerzy Grabosz				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	15.0	0.0	45
	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	45		8.0		47.0	100
Subject objectives	Acquisition of knowledge of ergonomics methods and techniques that are needed not only to the organizers and production managers, and designers but technical, organizational and information technology.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W07] knows the basic conditions concerning norms and standards covering particular areas of the organization's functioning, including in particular those concerning technical resources and processes		Has knowledge about organization of work according to principles of ergonomics		[SW1] Assessment of factual knowledge		
	[K6_U05] uses appropriate regulations, legal rules and normative systems in accordance with the principles of professional ethics in managerial activities		Has ability to evaluate and design workplaces according to principles of ergonomics		[SU1] Assessment of task fulfilment		
	[K6_U08] analyses engineering and managerial solutions in decision-making processes, taking into account pro-quality and pro-environmental aspects, as well as safety of work processes		Has ability to evaluate and design workplaces according to principles of ergonomics		[SU1] Assessment of task fulfilment		
	[K6_W12] has a basic knowledge of production management and occupational safety and ergonomics management, as well as information technologies necessary for engineering management		Has knowledge about occupational ergonomics		[SW1] Assessment of factual knowledge		
	[K6_W11] has the basic knowledge of mathematics, physics and chemistry necessary to solve technical problems		Has knowledge about physical workload in workplaces.		[SW1] Assessment of factual knowledge		

Subject contents	Ergonomics of physical work. Methods of physical workload analysis. Principles of workspace design. Methods of workspace design. Reducing physical workload. Evaluation of mental workload. Cognitive workload analysis. Human reliability assessment. Ergonomics guidelines for computer-supported work. Ergonomics requirements for software and information systems. Design and evaluation of work environment: industrial acoustics. Design and evaluation of work environment: lighting, microclimate, electromagnetic fields. Ergonomic evaluation of industrial machinery and workplaces. Occupational risk assessment. Safety management in industry. Employees' duties and responsibilities in providing safe working conditions for the personnel.		
Prerequisites and co-requisites	Subject: Organization of Work Processes		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	project	60.0%	50.0%
	written exam	60.0%	50.0%
Recommended reading	Basic literature	<ul style="list-style-type: none"><li>Górska E. (2007): <b>Ergonomia - projektowanie, diagnoza, eksperymenty</b>. Wyd. Politechnika Warszawska, Warszawa.</li><li>Olszewski J.(1993): <b>Podstawy ergonomii i fizjologii pracy</b>. Akademia Ekonomiczna, Poznań.</li><li>Lewandowski J.(1995): <b>Ergonomia</b>. MARCUS, Łódź.</li></ul>	
	Supplementary literature	<ul style="list-style-type: none"><li>Wykowska M. (2010). <b>Ergonomia</b>. Wyd. AGH, Kraków.</li><li>Kamieńska-Żyła M.(1996): <b>Ergonomia stanowiska komputerowego</b>. Wyd. AGH Kraków.</li></ul>	
	eResources addresses	Uzupełniające Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Methods for evaluation of physical workload in workplaces.  Shaping the ergonomics of a software product in an IT project.  Guidelines for designing workplaces with LCD monitors.		
Work placement	Not applicable		