



Subject card

Subject name and code	Technical Ergonomics, PG_00044768						
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	Part-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	mgr inż. Jerzy Grabosz prof. dr hab. inż. Marcin Sikorski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	16.0	0.0	0.0	8.0	0.0	24
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	24	8.0		68.0		100
Subject objectives	Acquiring the knowledge of ergonomic methods and techniques that are needed not only by production organizers and managers, but also designers of technical, organizational and IT solutions.						
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	Knowledge of the rules organize work in accordance with design principles ergonomic, test results and good practices.			[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	The student has the ability to assess and designing work stations according to the 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	The student has knowledge about ergonomics of workstations			[SW1] Assessment of factual knowledge		
	[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	The student has the ability to assess and designing work stations according to the principles of ergonomics			[SU1] Assessment of task fulfilment		
[K6_W11] has the basic knowledge of mathematics, physics and chemistry necessary to solve technical problems	The student has knowledge about physical loads appearing in positions work.			[SW1] Assessment of factual knowledge			

Subject contents	<ol style="list-style-type: none"> 1. Ergonomics - introduction. Ergonomic system: people - technology - environment. 2. Analysis of physical load at work stations. Reduction of physical load at work stations. 3. Workspace design. Space requirements for typical workplaces. 4. Ergonomics and organization of computer-aided work. 5. Mental load at workstations - shaping the content of work. Methods of assessing mental stress at workplaces. 6. Analysis of the material work environment (1). Analysis of lighting conditions and electromagnetic fields in workplaces. Analysis of acoustic conditions, vibrations and microclimate and air pollution at workplaces. 7. Methods of occupational risk assessment at workplaces. System management of work safety in the enterprise. 8. Employer's obligations to ensure safe working conditions. Macroergonomics - shaping work organization and employer-employee relations. 		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exam	60.0%	50.0%
	project	60.0%	50.0%
Recommended reading	Basic literature		<p>Górska E. (2007): Ergonomia - projektowanie, diagnoza, eksperymenty. Wyd. Politechnika Warszawska, Warszawa.</p> <p>Olszewski J.(1993): Podstawy ergonomii i fizjologii pracy. Akademia Ekonomiczna, Poznań.</p> <p>Lewandowski J.(1995): Ergonomia. MARCUS, Łódź.</p> <p>Wykowska M. (2010). Ergonomia. Wyd. AGH, Kraków.</p>
	Supplementary literature		--
	eResources addresses		<p>Podstawowe</p> <p>https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25349 - ecourse</p> <p>Adresy na platformie eNauczanie:</p>
Example issues/ example questions/ tasks being completed	<p>Methods for evaluation physical workload in workplaces.</p> <p>Shaping ergonomics of a software product in an IT project.</p> <p>Guidelined for designing workplaces with LCD monitors.</p>		
Work placement	Not applicable		