



Subject card

Subject name and code	Safety ergonomics, PG_00055368						
Field of study	Mechatronics						
Date of commencement of studies	October 2022	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	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 Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Ryszard Woźniak					
	Teachers	dr inż. Sławomir Sommer					
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	1.0	9.0		25	
Subject objectives	Acquiring basic knowledge in the area of Occupational Safety and Ergonomics.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_W12] has basic knowledge on management and knowledge essential for understanding non-technical conditions of engineering activities; knows basic rules of industrial safety and intellectual property rights; is able to make use of patent databases	The student explains the concepts of ergonomics. It describes its purposes and area of application. It is defined by the human - machine - environment system. Designs the human work environment taking into account the design principles. He uses various human models. It presents the safety and reliability of the human - machine - environment system. It presents the information ability of machines.	[SW2] Assessment of knowledge contained in presentation
	[K6_U10] is able - while formulating and solving mechatronic engineering tasks - to notice their systemwide and non-technical aspects	The student explains the concepts of ergonomics. It describes its purposes and area of application. It is defined by the human - machine - environment system. Designs the human work environment taking into account the design principles. He uses various human models. It presents the safety and reliability of the human - machine - environment system. It presents the information ability of machines.	[SU1] Assessment of task fulfilment
	[K6_U11] is able to evaluate usefulness of methods and tools to solve simple, practical engineering task, distinctive for mechatronics and is able to choose the proper method and tools	The student explains the concepts of ergonomics. It describes its purposes and area of application. It is defined by the human - machine - environment system. Designs the human work environment taking into account the design principles. He uses various human models. It presents the safety and reliability of the human - machine - environment system. It presents the information ability of machines.	[SU1] Assessment of task fulfilment
Subject contents	Definitions of ergonomics, its subject, purpose and application. Description of the human-machine system environment. The concept of sustainable development. Environmental management systems. Human model and its characteristics. Human possibilities and industrial processes. Human work environment - material conditions. Principles of human work environment design. Safety and reliability of the human - machine - environment system. Informativeness of machines.		
Prerequisites and co-requisites	Basic knowledge of high school physics.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Evaluation of the presentation	60.0%	100.0%
Recommended reading	Basic literature	1) Ergonomics textbook by A L Cohen C C Gjessing L J Fine B P Bernard J D McGlothlin. 2) Product Design and Development Lecture by Dr Inderdeep Singh. 3) Applied Ergonomics Lecture by Prof. Shantanu Bhattacharya and Dr Ankur Gupta.	
	Supplementary literature	-	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Analysis of the biomechanical process and workstation. Physical capacity of the human body. Diagram of the human-technical system.		
Work placement	Not applicable		