GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Safety ergonomics, PG_00055368						
Field of study	Mechatronics						
Date of commencement of studies	October 2025		Academic year of realisation of subject	2025/2026			
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 -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Sławomir Sommer				
	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		1.0	9.0		25
Subject objectives	Acquiring basic knowledge in the area of Occupational Safety and Ergonomics.						

<table>
<tr><td>Learning outcomes</td><td>
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<tr><th>Course outcome</th><th>Subject outcome</th><th>Method of verification</th></tr>
<tr><td>[K6_W12] has 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</td><td>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.</td><td>[SW2] Assessment of knowledge contained in presentation</td></tr>
<tr><td>[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</td><td>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.</td><td>[SU1] Assessment of task fulfilment</td></tr>
<tr><td>[K6_U10] is able - while formulating and solving mechatronic engineering tasks - to notice their systemwide and non-technical aspects</td><td>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.</td><td>[SU1] Assessment of task fulfilment</td></tr>
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<tr><td>Subject contents</td><td>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.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Basic knowledge of high school physics.</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Evaluation of the presentation</td><td>60.0%</td><td>100.0%</td></tr>
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<tr><td>Recommended reading</td><td>
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<tr><td>Basic literature</td><td>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.</td></tr>
<tr><td>Supplementary literature</td><td>-</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
</table>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Analysis of the biomechanical process and workstation. Physical capacity of the human body. Diagram of the human-technical system.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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