



Subject card

Subject name and code	Interface in technology, PG_00062385						
Field of study	Automation, Robotics and Control Systems						
Date of commencement of studies	October 2023	Academic year of realisation of subject				2025/2026	
Education level	first-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery				at the university	
Year of study	3	Language of instruction				Polish	
Semester of study	6	ECTS credits				3.0	
Learning profile	general academic profile	Assessment form				assessment	
Conducting unit	Partment of Metrology and Information Systems -> Faculty of Electrical and Control Engineering -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Anna Golijanek-Jędrzejczyk					
	Teachers	dr inż. Beata Pałczyńska dr hab. inż. Anna Golijanek-Jędrzejczyk					
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	20.0	0.0	35
	E-learning hours included: 0.0						
	eNauczanie source addresses: Moodle ID: 3665 Interfejsy w technice [ARiSS][2025/26] <a href="https://enauczanie.pg.edu.pl/2025/course/view.php?id=3665">https://enauczanie.pg.edu.pl/2025/course/view.php?id=3665</a>						
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	35	7.0		33.0		75
Subject objectives	The aim of the course is to obtain knowledge in the field of designing useful HCI/HMI interfaces.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W07] has basic knowledge related to control and automation systems	The student classifies and designs HCI/HMI interface systems.			[SW3] Assessment of knowledge contained in written work and projects		
	[K6_K02] can work in a group taking on different roles in it	The student learns the specifics of work in the project group.			[SK1] Assessment of group work skills [SK3] Assessment of ability to organize work [SK4] Assessment of communication skills, including language correctness [SK5] Assessment of ability to solve problems that arise in practice		
	[K6_U02] can work individually and in a team, can communicate using various techniques in a professional environment, as well as document and analyze the results of their work, can estimate the time needed to perform the entrusted task can prepare and present a presentation on the problems and results of an engineering task	The student can write technical documentation, as well correctly estimate the time for implementation of individual tasks detailed.			[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task		

Subject contents	Course content – lecture Lectures		
	Principles and tools of project management. Introduction to the topic: human-machine interface HMI i human-computer HCI. Human properties. Human perception of colors and sounds. Influence internal and external factors. Information theory. Usable quality of an IT product. Software usability and GUI (graphical user interface) ergonomics and principles preparing an ergonomic interface. Analysis of selected GUIs in terms of usability. Testing GUI. Principles of preparing good documentation and assistance. Industrial information systems i visualizations. Hardware interfaces. Touch panel technology. Selected lectures delivered by industry specialists.		
	Course content – project Ergonomic user interface design. Development of good technical documentation constructed interface and presentation of its operation.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Lecture - written test	60.0%	50.0%
	Project	60.0%	50.0%
Recommended reading	Basic literature	<ol style="list-style-type: none"> <li>1. Cooper A., Wariaci rządzą domem wariatów. Dlaczego produkty wysokich technologii doprowadzają nas do szaleństwa i co zrobić, żeby tego uniknąć. 2004.</li> <li>2. Wysocki R. Efektywne zarządzanie projektami. Onepress, 2018.</li> <li>3. Malina W., Szwoch M. Podstawy projektowania interfejsów użytkownika. Helion, 2017.</li> <li>4. Osińska V.: Wizualizacja informacji. Studium Informatologiczne. WNUMK, Toruń 2016.</li> <li>5. Claus O. Wilke: Podstawy wizualizacji danych. Zasady tworzenia atrakcyjnych wykresów. Helion, 2020.</li> </ol>	
	Supplementary literature	<ol style="list-style-type: none"> <li>1. Bogdan Wiszniewski, Bogdan Berez-Jarociński Teoria i praktyka testowania programów PWN 2009</li> <li>2. Paul Beynon-Davies: Inżynieria systemów informacyjnych. WNT W-wa 2004.</li> </ol>	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<ul style="list-style-type: none"> <li>• GUI definition.</li> <li>• Principles of designing a useful interface.</li> <li>• The definition of latency and how to avoid it.</li> <li>• Classification of hardware interfaces.</li> <li>• Classification of touch panels.</li> </ul>		
Practical activities within the subject	Not applicable		

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