GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Interface in technology, PG_00059837
Field of study	Automation, Robotics and Control Systems

Date of commencement of studies	October 2021	Academic year of realisation of subject	2023/2024
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	Department of Metrology and Information Systems -> Faculty of Electrical and Control Engineering

Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Anna Golijanek-Jędrzejczyk
	Teachers	dr inż. Beata Pałczyńska dr inż. Anna Golijanek-Jędrzejczyk

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	20.0	0.0	0.0	35
	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	35	7.0	33.0	75

Subject objectives	The aim of the course is to gain knowledge in the field of designing useful HCI/HMI interfaces.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	K6_W07	Student classifies and designs HCI/HMI interface systems.	[SW3] Assessment of knowledge contained in written work and projects
	K6_K02	The student learns the specifics of work in the project group.	[SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice [SK2] Assessment of progress of work [SK3] Assessment of ability to organize work
	K6_U02	The student can write technical documentation as well estimate the time correctly 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	Lectures
	Project management principles and tools. Introduction to the subject: human-machine interface HMI and human-computer HCI. Human properties. Human perception of colors and sounds. The impact of internal and external factors. Information theory. Quality of use of an IT product. Usability of the software and ergonomics of the GUI (graphical user interface) and the principles of preparing an ergonomic interface. Analysis of selected GUIs in terms of usability. GUI testing. Rules for the preparation of good documentation and assistance. Industrial information and visualization systems. Hardware interfaces. Touch panel technology. Selected lectures conducted by specialists from the industry.
	Lab
	Designing an ergonomic user interface. Development of good technical documentation of the 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%
	Lab	60.0%	50.0%

Recommended reading	Basic literature	1. Cooper A., Wariaci rządzą domem wariatów. Dlaczego produkty wysokich technologii doprowadzają nas do szaleństwa i co zrobić, żeby tego uniknąć. 2004. 2. Wysocki R. Efektywne zarządzanie projektami. Onepress, 2018. 3. Malina W., Szwoch M. Podstawy projektowania interfejsów użytkownika. Helion, 2017. 4. Osińska V.: Wizualizacja informacji. Studium Informatologiczne. WNUMK, Toruń 2016. 5. Claus O. Wilke: Podstawy wizualizacji danych. Zasady tworzenia atrakcyjnych wykresów. Helion, 2020.
	Supplementary literature	1. Bogdan Wiszniewski, Bogdan Bereza-Jarociński Teoria i praktyka testowania programów PWN 2009 2. Paul Beynon-Davies: Inżynieria systemów informacyjnych. WNT W-wa 2004.
	eResources addresses	Adresy na platformie eNauczanie: Interfejsy w technice [2023/24] - Moodle ID: 35949 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=35949

Example issues/ example questions/ tasks being completed	In a group, the student designs an ergonomic user interface for an example automation system and then prepares documentation and a user manual for this system. The whole thing is presented during a short presentation.
Work placement	Not applicable