GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Alarm Systems Engineering, PG_00038314		
Field of study	Automation, Robotics and Control Systems		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	second-cycle studies	Subject group	Specialty subject group 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	1	Language of instruction	Polish
Semester of study	2	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. Ariel Dzwonkowski	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	10.0	0.0	20.0	0.0	0.0	30

E-learning hours included: 0.0

Adresy na platformie eNauczanie:

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	30	7.0	38.0	75

Subject objectives

The aim of the course is to introduce students to the subject of Intruder Alarms Systems, Access Control Systems and CCTV.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_K04] is able to react in abnormal and emergency situations, health and life-threatening when use of automation and robotics components and systems		
[K7_U01] is able to obtain information from literature, databases and other sources, to integrate information obtained information, interpret and draw conclusions and substantiate opinions in a comprehensive manner	The student configures and programs the devices of the burglary and assault signaling system. The student presents the purpose and lists the types of basic notification systems. Student correctly assembles, launches, configures and programs simple alarm systems. The student performs the design of an alarm system intended for a small facility. Student explains the purpose of CCTV systems and describes the principle of operation of CCTV system devices.	[SU2] Assessment of ability to analyse information

Subject contents

LECTURE An overview of alarming systems devices. Detectors - types, principles of operation. Sirens and equipment for notification. Alarm systems - rules for the selection of equipment, levels of security. Access control systems - an overview of devices, principles of selection. Control panels - construction, principle of operation, programming and configuration using external devices. Remote controling the operations of alarm systems. Notification devices - GSM, Ethernet. Monitoring stations - construction, working principles, transmission channels, the software. Wireless systems - rules for the selection of equipment, systems configuration. Transmission Reliability - distorted and undistorted signals. CCTV systems - an overview of solutions, equipment parameters, configuration and optimization of the system.
LABORATORY EXERCISES Programming and running of control panels CA 5, CA-6, CA-10, INTEGRA, VERSA series. Connection, programming and running of ACCO access control system and wireless system ABAX. Practical verification of the configuration, connection and programming of alarm systems.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">Basic electric enginnering knowledge. Ability to connect electrical and electronic circuits.</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Midterm colloquium</td><td>60.0%</td><td>60.0%</td></tr>
<tr><td>Practical exercise</td><td>60.0%</td><td>40.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">1. Mikulik, Jerzy: Podstawowe systemy bezpieczeństwa w budynkach inteligentnych, Wydawnictwo Politechniki Śląskiej, Gliwice 2005 2. Wójcik, Andrzej: Mechaniczne i elektroniczne systemy zabezpieczeń. Fachowy poradnik dla: projektantów, instalatorów, producentów, inwestorów, agencji ochrony mienia, użytkowników.
2. Mechaniczne i elektroniczne systemy zabezpieczeń. Fachowy poradnik dla: projektantów, instalatorów, producentów, inwestorów, agencji ochrony mienia, użytkowników. Zespół autorów pod redakcją dr inż. Andrzeja Wójcika.
3. Satel training materials.</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">No recommendations.</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">1. What is an alarm system?
2. Construction and operation of motion detectors.
3. What functions does the alarm control panel?
4. How do install the sirens?
5. What is Access Control System?
6. What devices are part of the Access Control System?
7. What types of cameras used in CCTV systems?
8. In which connection configurations can operate devices connected to the CCTV system?</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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