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 2025	Academic year of realisation of subject	2025/2026
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	Partment Of Metrology And Information Systems -> Faculty Of Electrical And Control Engineering -> Wydziały Politechniki Gdańskiej		
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 provide students with knowledge on issues related to Intruder and Hold-up Alarm 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	Reacts correctly in emergency situations, threats to health and life when using automation and robotics components and systems.	[SK5] Assessment of ability to solve problems that arise in practice
[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	Implements issues based on information from literature and other sources, also in English, performs tasks based on the interpretation and integration of acquired knowledge, and correctly formulates well-justified conclusions.	[SU2] Assessment of ability to analyse information

Subject contents

LECTURE Overview of alarm devices and systems. Detectors types, principles of operation. Signaling devices and notification devices. Intruder and hold-up alarm systems principles of device selection, security levels. Alarm control panels construction, principle of operation, programming and configuration using additional modules. Wireless systems principles of device selection, system configuration. Access control systems overview of devices, selection principles. Wireless systems principles of device selection, system configuration. Transmission of alarm messages. CCTV video monitoring systems overview of solutions, device parameters, system configuration and optimization.
LABORATORY EXERCISES Programming and start-up of CA-10 alarm control panels, INTEGRA, VERSA and PERFECTA series. Connection, programming and start-up of the ACCO access control system, ABAX wireless system. Practical verification of the correctness of the configuration, connection and programming of alarm systems.

Prerequisites and co-requisites

Basic electric enginnering knowledge. Ability to connect electrical and electronic circuits.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Practical exercise	60.0%	40.0%
Midterm colloquium	60.0%	60.0%

Recommended reading	Basic literature	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. 4. Siudalski Stefan Jerzy: Monitoring i systemy alarmowe, Wydawnictwo Wiedza i Praktyka, Warszawa 2014. 5. Jacek Paś, Adam Rosiński, Michał Wiśnios, Ewelina Majda-Zdancewicz, Jarosław Łukasiak: Elektroniczne systemy bezpieczeństwa : wprowadzenie do laboratorium Instytut Systemów Elektronicznych, Wojskowa Akademia Techniczna im. Jarosława Dąbrowskiego, Warszawa 2018. 6. Jacek Włodarczyk, Zbigniew Podosek: Systemy teletechniczne budynków inteligentnych: okablowanie strukturalne, instalacje elektryczne, systemy alarmowe, systemy kontroli dostępu, sieci domowe, systemy HVAC, systemy przeciwpożarowe, Przedsiębiorstwo Badawczo-Projektowo-Wdrożeniowe "Cyber","BEL Studio", Warszawa 2002.
	Supplementary literature	1. Valouch Jan, Slezak Dominik, Kiumi Akingbehin, Kim Haeng-kon, Ramos Carlos, Kim Tai-hoon, Mohammed Sabah, Kim Haeng-kon, Kiumi Akingbehin, Ramos Carlos, Mohammed Sabah, Ślęzak Dominik, Kim Tai-hoon: Integrated Alarm Systems, Germany: Springer Berlin / Heidelberg, Computer Applications for Software Engineering, Disaster Recovery, and Business Continuity, 2012, Vol.340, p.369-379. 2. Honey Gerard: Intruder Alarms, Chantilly: Elsevier Science & Technology, 2007. 3. Vivian Capel: Burglar alarm systems, London: Newnes Technical Books, 1979. 4. Thomas Norman: Electronic access control, Amsterdam: Butterworth-Heinemann, 2012. 5. Thad L. Weber, Alarm Systems and Theft Prevention, Butterworth Publishers, ISBN: 9780409950397, 1979. 6. Knock, knock, who's there? want to buy a home security system? beware of home alarm sales scams, United States. Federal Trade Commission, Washington, D.C., 2011.
	eResources addresses	
Example issues/ example questions/ tasks being completed	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?	
Work placement	Not applicable	

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