



Subject card

Subject name and code	Alarm Systems Engineering, PG_00059228						
Field of study	INŻYNIERIA ZABEZPIECZEŃ						
Date of commencement of studies	February 2025		Academic year of realisation of subject		2025/2026		
Education level	second-cycle studies		Subject group				
Mode of study	Full-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 -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Ariel Dzwonkowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	15.0	0.0	45
	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	45		6.0		24.0	75
Subject objectives	The aim of the course is for the student to acquire knowledge on issues related to Intruder Alarm Systems, Access Control Systems and CCTV.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[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		Completes tasks based on information from literature and other sources, including those in English, interprets and integrates acquired knowledge, and correctly formulates well-reasoned conclusions.		[SU2] Ocena umiejętności analizy informacji		
	[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 appropriately in emergency situations, threatening health and life when using automation and robotics components and systems.		[SK5] Ocena umiejętności rozwiązywania problemów występujących w praktyce		
Subject contents	Overview of alarm devices and systems. Detector types and operating principles. Signals and notification devices. Intruder alarm systems: device selection principles, security levels. Access control systems: device review and selection principles. Alarm control panels: design, operating principles, programming, and configuration using additional modules. Remote control of alarm systems. GSM and Ethernet notification devices. Monitoring stations: design, operating principles, transmission channels, and software. Wireless systems: device selection principles and system configuration. Transmission reliability: interference-free and interference-free signals. CCTV systems: solution review, device parameters, configuration, and system optimization.						
	Programming and commissioning of CA 5, CA-6, CA-10, INTEGRA, VERSA, and PERFECTA alarm control panels. Connecting, programming, and commissioning the ACCO access control system and the ABAX wireless system. Practical verification of the correct configuration, connection, and programming of alarm systems.						
	Design of an Intruder Alarm System with elements of a CCTV System, Fire Alarm System and/or Access Control System.						
Prerequisites and co-requisites	Basic knowledge of electrical engineering. Ability to connect electrical and electronic circuits.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Project of alarm system		60.0%		30.0%		
	Practical exercises		60.0%		30.0%		
	Tests during the semester		60.0%		40.0%		

Recommended reading	Basic literature	1. Mikulík, Jerzy: Podstawowe systemy bezpieczeństwa w budynkach inteligentnych, Wydawnictwo Politechniki Śląskiej, Gliwice 2005 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. Materiały szkoleniowe Satel Sp. z o.o. 4. Siudański 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, Slezak 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. The structure and operation of motion detectors. 3. What are the functions of an alarm control panel? 4. How should alarms be installed? 5. What is an Access Control System? 6. What devices are included in an Access Control System? 7. What types of cameras are used in CCTV systems? 8. What connection configurations can devices connected to a CCTV system operate in?	
Practical activities within the subject	Not applicable	

Document generated electronically. Does not require a seal or signature.