



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 2022	Academic year of realisation of subject			2022/2023		
Education level	second-cycle studies	Subject group			Optional 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	dr inż. Ariel Dzwonkowski					
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						
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_W13	The student explains the principles of operation of basic devices of burglary and assault signaling systems. Student describes the construction and operation of alarm control panels and selects appropriate devices for use in burglary and assault signaling systems. The student discusses the purpose and principle of the monitoring system.			[SW1] Assessment of factual knowledge		
	K7_U01	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	<p>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 controlling 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.</p> <p>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.</p>		
Prerequisites and co-requisites	Basic electric engineering 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	<ol style="list-style-type: none"> 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. 	
	Supplementary literature	No recommendations.	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> 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		