POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Property security techniques

Course

Field of study	Year/Semester
Electrical Engineering	2/3
Area of study (specialization)	Profile of study
Electrical and Computer Systems in Industry and Vehicles	general academic
Level of study	Course offered in
Second-cycle studies	Polish
Form of study	Requirements
full-time	compulsory

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
Tutorials	Projects/seminars	
	15	

Number of credit points

2

Lecturers

Responsible for the course/lecturer:	Responsible for the course/lecturer:
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Faculty of Control, Robotics and Electrical Engineering	Faculty of Control, Robotics and Electrical Engineering
Piotrowo 3A, 60-965 Poznań	Piotrowo 3A, 60-965 Poznań

Prerequisites

Basic knowledge in the field of electrical engineering, electronics and computer science, including in installations. Ability to understand and interpret knowledge provided in class. The ability to effectively self-study in a field related to the chosen field of study. Awareness of the need to expand their competences, readiness to cooperate within a team.

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Course objective

Extended knowledge of theoretical and practical problems related to the construction of elements, sub-assemblies and systems for modern property and people security.

Course-related learning outcomes

Knowledge

1. has extended knowledge in the field of construction and design of complex microprocessor systems, in particular for the purposes of measurement and control,

2. has knowledge of the possibilities and limitations of the methods used in computer aided design in electrical engineering.

Skills

1. is able to apply knowledge in the field of cooperation of property security systems with other installations,

2. is able to formulate and solve tasks related to modeling and designing of electrical components, devices and systems as well as designing the process of their production.

Social competences

1. is able to think and act in an entrepreneurial manner in the field of analyzing systems and systems in buildings.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Project classes are assessed on the basis of: rewarding the knowledge necessary to implement the problems posed in a given area of project tasks, continuous assessment, during each class - rewarding the increase in the ability to use known principles and methods, assessment of knowledge and skills related to the implementation of the project tasks.

Students can get extra points for activity during classes, and in particular for: proposing original solutions to the discussed issue, effectiveness of applying the acquired knowledge when solving a given problem, comments related to the improvement of teaching materials, aesthetic care of the developed tasks within self-study.

Programme content

Legal and normative status. Designing alarm systems and property protection. Implementation examples. Design, programming and testing of an alarm, fire, property protection system in a building or vehicle. Using students 'knowledge of other subjects, initiating discussions, asking questions in order to increase the students' activity and independence. Practical classes at the university supplemented with materials enabling independent preparation for classes and broadening of knowledge. The latest system solutions (hardware and software) regarding the subject matter of the classes are used.

Teaching methods

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Projects: The use of computer equipment with a multimedia projector, didactic stations (alarm systems mockups) and dedicated software for designing property security systems. Realization of projects in various hardware configurations: selection of elements, development of control algorithms, software, testing, preparation of project documentation. Practical classes at the university supplemented with materials for independent performance of tasks on the free software packages available.

Bibliography

Basic

1. Stanisławek R., Integracja systemów bezpieczeństwa w obiekcie, Systemy Alarmowe, 2002.

2. Markiewicz H., Instalacje elektryczne, Wydawnictwo Naukowo-Techniczne, Warszawa, 2006.

3. Petykiewicz P., Nowoczesna instalacja elektryczna w inteligentnym budynku, COSiW SEP, Warszawa, 2001.

4. Current list of standards, industry regulations and studies.

Additional

1. Nawrocki W., Sensory i systemy pomiarowe, Wydawnictwo Politechniki Poznańskiej, Poznań, 2006.

2. Ciszewski J., Nowe trendy w konstrukcji czujek pożarowych, Instytut Techniki Budowlanej, Warszawa 2012.

3. Głuchy D., Kurz D., Trzmiel G., Aspekty projektowania i eksploatacji systemów przeciwpożarowych w obiektach przemysłowych, Computer applications in electrical engineering vol. 79/2014, Poznan University of Technology Academic Journals – Electrical Engineering, Poznań, 2014, str. 149 – 156.

4. Piasecki A., Trzmiel G., Remote building control using the bluetooth technology, Monograph Computer Applications in Electrical Engineering, Poznan University of Technology 2016, vol. 14, pp. 457 – 468.

5. Internet: specialist subject literature, datasheets, standards.

Breakdown of average student's workload

	Hours	ECTS
Total workload	40	2,0
Classes requiring direct contact with the teacher	23	1,0
Student's own work (literature and industry studies, preparation for project classes, implementation of project work, preparation of project documentation) [1]	17	1,0

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[1] delete or add other activities as appropriate