



The Faculty of:	Faculty of Electrical Engineering and Informatics
Field of study:	Computer Engineering (EF)
Speciality:	FDA, FDS
Study degree (BSc, MSc):	One circle Master's degree full time studies

COURSE UNIT DESCRIPTION

Course title:	Computer systems data security
Lecturer responsible for course:	Marcin Bednarek, PhD
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Department : Department of Computer and Control Engineering	

Semester	Weekly load	Type of classes				Number of ECTS credits
		L Lectures	C Theoretical Classes	Lb Laboratory	P Project	
9	3	30			15	3

Course description
<p>Lecture: Information security. Security policy. Security threats. Security attacks. Security services, security mechanisms. Basic elements of cryptography. Kinds of ciphers. Symmetric key cryptography: stream ciphers and block ciphers. Symmetric and asymmetric cipher algorithms. Public key cryptography. Authentication methods. Digital signature. Malware. Firewalls. Sniffing and scanning. Backup. Data security in the communication systems. Transmission security in the industrial networks and distributed control systems.</p>
<p>Classes:</p>
<p>Laboratory:</p>
<p>Project: Analysis and/or planning the security of the computer systems and the computer networks. Implementation of security services in the computer systems. Computer networks security. Data storage security.</p>

Objectives of the course
<p>The goal of the course is to learn about security of computer systems (analysis and planning the security of computer systems, implementing security services).</p>

Examination method

Written solution of design problems (presentation incl.).

Bibliography

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| <ol style="list-style-type: none">1. Stamp M.: Information Security. Principles and Practice. Willey-Interscience, Hoboken, 2006.2. Stallings W.: Ochrona danych w sieci i intersieci. W teorii i praktyce. WNT, Warszawa 19973. Stokłosa J., Bilski T., Pankowski T.: Bezpieczeństwo danych w systemach informatycznych, PWN, Warszawa – Poznań 20014. Liderman K.: Bezpieczeństwo Teleinformatyczne, Instytut Automatyki i Robotyki WAT, Warszawa 20015. Anderson J.: Security Engineering. A Guide to Building Dependable Distributed Systems, Wiley Publishing Inc., Indianapolis 20086. Maiwald E. Bezpieczeństwo w sieci: kurs podstawowy, EDITION 2000, Kraków 20017. Sutton R. J.: Bezpieczeństwo telekomunikacji: praktyka i zarządzanie, WKiŁ, Warszawa 20048. Schneier B.: Kryptografia dla praktyków, WNT, Warszawa 20029. Dennig D.E.: Wojna informacyjna i bezpieczeństwo informacji, WNT, Warszawa 200210. Put D.: Szkoła Hakerów – podręcznik, Wydawnictwo CHS, Kwidzyn 200611. Smith B., Komar B, Microsoft Security Team: Windows Security, APN Promise, Warszawa 2003 |
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Lecturer signature	
Head of Department signature	
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