STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Data security		**1010334461010334967**
Field of study: **Information Engineering**	Profile of study (general academic, practical): **(brak)**	Year /Semester: **3 / 6**
Elective path/specialty: **-**	Subject offered in: **polish**	Course (compulsory, elective): **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time): **part-time**	
No. of hours: Lecture: **20** Classes: **-** Laboratory: **16** Project/seminars: **-**		No. of credits: **6**
Status of the course in the study program (Basic, major, other): **(brak)**	(university-wide, from another field): **(brak)**	
Education areas and fields of science and art: **technical sciences**		ECTS distribution (number and %): **6 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Has structured knowledge based on a theoretical foundation in the area of network technologies
2	**Skills**	K_U01: Is able to search for information in literature, databases and other sources; is able to integrate acquired information, interpret it, draw conclusions and formulate and argument opinions.
3	**Social competencies**	Is able to construct algorithms using basic algorithmic techniques and analyse their complexity.

Assumptions and objectives of the course:

Presentation of theoretical and practical problems dealing with data security.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Has structured knowledge based on a theoretical foundation in the area of data protection and information systems security. - [[K_W13]]

Skills:

1. Is able to apply appropriate data protection methods and ensure security of the information system. - [[K_U17]]

Social competencies:

1. x - [[K_K03]]

Assessment methods of study outcomes

Based on lecture and laboratory participation.

Course description

Threats to the data security. Methods of data protection: UPSs, system access security, logs, RAIDs, antivirus protection, steganography; cryptographic methods of data protection: ciphers, cryptographic techniques, data integrity, authentication, non-repudiation, cryptographic key management. Firewalls. Virtual Private Networks. Intrusion Detection Systems. Management of IT security.

Basic bibliography:

1. Introduction to Cryptography, J.A. Buchmann, Springer-verlag, New York, 2004

Additional bibliography:

1. Cryptography and Network Security, W. Stallings, Prentice Hall, 2011.
2. Firewall and Internet Security, W.R. Cheswick, S.M. Bellovin, Addison-Wesley, Reading, MA, 1994.

Result of average student's workload

Activity	Time (working hours)
1. Lecture	20
2. Laboratory	16
3. Preparation of laboratory reports	22
4. Preparation to tests	22
5. Preparation to the examination	30
6. Participation in consultations and examination	10

Student's workload

Source of workload	hours	ECTS
Total workload	150	6
Contact hours	70	3
Practical activities	70	3